DOCUMENT RESUME

ED 147 490 08 CE 013 364

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TITLE The Cross-Sectional Story of Early Career Development as Revealed by the National Assessment of Educational Progress. Revised.
INSTITUTION National Advisory Council for Career Education, Washington, D.C.
SPONS AGENCY Office of Education (DHEW), Washington, D.C.
PUB DATE Mar 77
NOTE 364p.; For related documents see CE 013 364, CE 013 414-416, and CE 013 864
AVAILABLE FROM Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (Stock Number 017-080-01782-2)

EDRS PRICE MF-$0.83 HC-$19.41 Plus Postage.
DESCRIPTORS Adults; *Age Groups; Career Awareness; *Career Education; Career Planning; Cross Sectional Studies; Decision Making; *Educational Objectives; Grade 4; Grade 8; Grade 12; Individual Characteristics; Job Skills; National Surveys; Needs Assessment; Program Development; Skill Development; Student Needs; *Vocational Development; Vocational Education; *Work Attitudes
IDENTIFIERS National Assessment of Educational Progress

ABSTRACT

One in a series of five publications reporting the results of a national career development needs study of four different age levels, this document presents a cross-sectional study of the data collected from samples of nine-year-olds, thirteen-year-olds, seventeen-year-olds, and adults (ages 26-35). An overview describing the assessment procedures, objectives, survey, subpopulations included, summary of the results, and possible uses of the career development needs series precedes a cross-sectional analysis of the data based on the following five objectives: prepare for making career decisions, improve career and occupational capabilities, possess skills that are generally useful in the world of work, practice effective work habits, and have positive attitudes toward work. Statistical tables are also included. (BM)

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THE CROSS-SECTIONAL STORY OF EARLY CAREER DEVELOPMENT
AS REVEALED BY
THE NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

Prepared by
National Advisory Council for Career Education

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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January 1977

(Revised March 1977)

CE 013 364

PREFACE

A considerable portion of each agenda of the National Advisory Council for Career Education is devoted to assessing the various means by which the identifiable knowledge gaps in career education can be closed. The result has been the commissioning of two series of papers on a wide variety of topics. Several of the papers from the first series were published in 1976, e.g., those dealing with the emerging history and the efficacy of career education.

A second series of papers were commissioned in 1976, again, on a broad number of career education concerns. The document in your hands is one of those submitted to the Council in either late 1976 and early 1977.

At the April 6, 1977 meeting of the Council, a substantial amount of time was spent discussing these papers. A motion was passed unaminously to reflect the position to which the Council strongly adheres, namely, that it is healthy to have different points of view on career education and that the promotion of these differing views is a very positive step in the life of career education. We sincerely believe that the dissemination of these papers is, indeed, a very salutary action in the furtherance of the career education debate.

This does not and should not imply that the National Advisory Council for Career Education accepts and endorses all the concepts, ideas, suggestions and recommendations in the papers we are now disseminating. We disagree with opinions expressed in several of these papers. This document, rather, reflects the realization that the Council has identified certain goals and issues and that we wish to make available for reading, and, to be sure, thought-provoking discussion, this set of commissioned papers which directly explore these goals and issues.

Our intent, as we have indicated, has been to close some of the existing knowledge and philosophical gaps in the field. We trust this document will contribute toward that end.

George F. Meyer, Jr.
Chairperson

May 20, 1977

PREFACE

National cross-sectional career data attract career psychologists almost as unerringly as honey attracts bees. The Association for Measurement and Evaluation in Guidance and the National Vocational Guidance Association owe to that fact the contributions to this report of such fine career psychologists as Dr. Martin R. Katz, Dr. Anna Miller-Tiedeman, and Professor Samuel H. Osipow. No one of those fine persons could refrain from entering into the interpretation of the 1973-74 Study of Career and Occupational Objectives which was completed in 1976 by the National Assessment of Educational Progress.

I was lucky indeed to have this factor going for me as Katz, Miller-Tiedeman, Osipow and I embarked upon interpretation of the NAEP career data. It wasn't until we actually had the NAEP career data in hands that all four of us fully comprehended the assessment difference in NAEP. The difference in the NAEP assessment is that it provides only objective referenced data. This fact combines with the scientific sampling procedures of NAEP to insure excellent national and demographic data on the incidence of behavior relative to an objective. However, NAEP leaves users and interpreters pretty much on their own with regard to how well NAEP exercises sample the universe of career content itself. This fact proved aggravating in the writing of The Cross-Sectional Story of Early Career Development as Revealed by the National Assessment of Educational Progress. The Story's authors ordinarily found themselves unable to generalize national incidences to the early career phenomenon in any systematic fashion. Therefore, when you read this Story you will obviously see that the condition of a particular career objective is cross-sectionally and demographically revealed fairly clearly by the data. However, you will also find the authors largely unable to suggest what the revealed condition with regard to a specific objective implies in terms of the broader conception of career development. Such implications can't be drawn very far beyond any specific NAEP objective.

As indicated, the effect of NAEP's structure on the career developmental implications of these cross-sectional data is to create a series of posts sticking up from the early career's ocean bed. Each of these posts give an accurate indication of how many Americans have and do not have a particular kind of career behavior. However, no one has yet mapped these posts into the ocean scene of career development and the present authors found themselves unable to do so when they wanted to. The objectives just don't lend themselves to any one or more coherent structures of the career development phenomenon. Therefore readers will have to content themselves with this Story which is about career development in the vicinities of several career behavior loci. Readers will find that they can put together two or more observations on early career development just as well as the authors have. In fact, authors encourage readers to do so. There are multitudinous sub-sets of the objectives which will have consistency with one or more concepts of one or more career theories. However, readers will also find, as we did, that it is difficult either to discover the larger unity to which the whole set of objectives belong or to test any propositions from any existing theory very strongly.

When the authors realized the Rorschach-like nature of the NAEP cross-sectional career data, we relaxed with regard to the conditions of time and other resources within which this Story was written. Because we were treating data cross-sectionally, and because we all wanted to participate in drafting material, we necessarily divided the data by objectives. Division according to the five sections of the objectives made sense but resulted in unequal assignments to authors. We therefore finally divided responsibilities for first drafts among ourselves with division as noted in two of the five sections themselves. Furthermore, we considered it necessary from the outset to let the data speak to us before we imposed a high degree of structure on what we found of high meaning in the data. We expected that we would be able to iron out marked differences in our formats through iteration as we proceeded. We actually did iron out a few such differences but we stopped short of ironing them all out. The resulting camel-like Story may therefore sometimes read like the horse-designed-by-a-committee which it is rather than like the horse itself which any one of the authors could have produced. We apologize for any affront which such a decision brings to literary purists. We Story authors just lacked the resources required to write our Story as a group of the whole rather than as a collection of four of us.

We four authors appreciate the professional and financial help provided by both the National Assessment of Educational Progress and the National Advisory Council on Career Education. The writing of our Story would not have been possible without help of both kinds from both groups.

David V. Tiedeman
Editor

DeKalb, Illinois
January 1977

CONTENTS

PREFACE i

CONTENTS iv

LIST OF FIGURES vii

LIST OF TABLES viii

Chapter 1

THE CAREER AND OCCUPATIONAL DEVELOPMENT SURVEY OF THE NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS 1

The Assessment 1
The Objectives 2
The Exercises 3
The Survey 4
The Data 4
The Early Career Development Results 5
  I. Prepare for Making Career Decisions 5a
  II. Improve Career and Occupational Capabilities 5y
  III. Possess Skills That Are Generally Useful in the World of Work 5z
  IV. Practice Effective Work Habits 5ac
  V. Have Positive Attitudes Toward Work 5ae
The Sub-Populations 5ah
The Early Career Development Series 7
NAEP Series 7

Chapter 2

PREPARE FOR MAKING CAREER DECISIONS 9

.10 Know Own Characteristics Relevant to Career Decisions 9

  .11 Discussion of Plans for the Future 9
  .12 Taking Career Tests and Being Advised About the Results 18

.20 Knowing the Characteristics and Requirements of Different Careers and Occupations 23

  .21 Identifying Jobs from Written Descriptions-Activities . . 23
  .22 Naming the Job from a Spoken Description 25
  .23 Identifying Jobs from Written Descriptions-Functions . . 25
  .24 Identifying, Training Periods of Jobs 27
  .25 Stating Reasons for Accepting or Rejecting a Promotion . 30
  .26 Identifying a Job's Relative Pay Position 37
  .27 Summary 39

.30 Relate Own Personal Characteristics to Occupational Requirements 40

  .31 Transform Interests into Job Assets 41
  .32 Transforming Skills into Job Assets 51
  .33 Summary and Comment 58

.40 Plan for Career Development or Change 61

.41 Transforming Subjects into Job Assets 61
.42 Things to Consider in Choosing a Job 68
.43 Activities for Investigating a Job of Interest 76
.44 Future Job Plans 81
.45 Employment Background and Plans 101
.46 Summary and Comment 117

Chapter 3

IMPROVE CAREER AND OCCUPATIONAL CAPABILITIES 120

.11 Work Done to Help Out at Home 121
.12 Kinds of Site Visited 121
Summary 121
.13 Lessons, Training, or Courses Taken Outside of Regular School 129
.14 Activities Done Without Help 132

Personal and Family Living Activities 132

Care of Persons 132
Homemaking 132
Cooking 136
Sewing 138
Gardening 138

Communicative Activities 138

Technological Activities 143

Maintenance 143
Construction 145
Innovations 147
Summary 149

Chapter 4

POSSESS SKILLS THAT ARE GENERALLY USEFUL IN THE WORLD OF WORK . . 151

.10 Have Generally Useful Numerical Skills 151

.11 Reasoning With Numerical Data Presented in a Display . . 151

.111 Reading Table of Shoe Sizes 151
.112 Reading a Bar Graph 154
.113 Reading a Floor Plan 156
.114 Summary: Numerical Reasoning from Displayed Data 159

.12 Identifying Which of Four Fractions Exceeds a Stated Decimal 160

.121 Identifying Which of Four Fractions Exceeds Stated Decimal 160
.122 Conversions of Weight, Time, and Measure 161
.123 Summary: Conversion from One Scale to Another . . 169

.13 Calculating 171

.131 Calculating Amount of Finance Charges Paid in a Two-Year Period 171

.14 Summary: Numeric Skills 173

.20 Have Generally Useful Communication Skills 175

.21 Follow Street Directions 175
.22 Find Telephone Number from Book Within Five Minutes 177
.23 Addressing an Envelope 180
.24 Fill Out Order Blank 182
.25 Discussion Activities With Organized Groups Within the Last 12 Months 184
.26 Summary: Communication Skills 188

.30 Have Generally Useful Manual-Perceptual Skills 190

.31 Read Quantity of Liquid Depicted in a Measuring Cup 190
.32 Determine Length of a 3 3/8 Inch Line 192
.33 Sketching Four Objects in Three Dimensions 194
.34 Summary: Manual-Perceptual Skills 196

.40 Have Generally Useful Information-Processing and Decision Making Skills 199

.41 Suggesting Changes in Hiring Policies 199

.50 Have Generally Useful Interpersonal Skills 206

.51 How Helped Another With School Work 206
.52 How Help Another Who Speaks Almost No English 207
.53 Naming Four Best and Worst Things a Supervisor Did . . . 207
.54 Summary 215

.60 Have Employment-Seeking Skills 216

.61 Naming Five Kinds of Local Part-Time Work for Age . . . 216
.62 Responding by Letter to Help Wanted Advertisement . . . 217
.63 Summary 225

Chapter 5

PRACTICE EFFECTIVE WORK HABITS 227

.10 Assume Responsibility for Own Behavior 227

.11 Responsibility for Getting Bread for Mother 227
.12 Responsibility for Accident in a Factory 231
.13 Dealing With a Rule Considered Unfair 233
.14 Summary 235

.30 Use Initiative and Ingenuity to Fulfill Responsibilities . . 237

- .31 Fastest Way to Fold and Staple Two Sheets of Paper to Conform to a Model 237
- .32 Getting an Assigned Job Done Which is Not Fully Understood 239
- .33 Participating in Group Decision About Completing a Job on Time 241
- .34 Summary 243

Chapter 6

HAVE POSITIVE ATTITUDES TOWARD WORK 245

.10 Recognize the Bases of Various Attitudes Toward Work 245

- .11 Reasons Why Willing Workers Experience Difficulties in Getting Jobs 245
- .12 Is It Possible for a Worker to Like a Repetitive Job? 249
- .13 Summary 253

.30 Seek Personal Fulfillment Through Own Achievements 254

- .31 Who Should Finally Decide on Your Work for a Living? 254
- .32 What Would You Enjoy Doing as a Millionaire? 256
- .33 Summary 260

.40 Value Work in Terms of Societal Goals 261

- .41 Why We Should Continue to Have Child Labor Laws 261

LIST OF FIGURES

Figure		Page
1.1	A Condensed Cross-Sectional Depiction of Early Career Development	5b
1.2	National Assessment Geographic Regions	5ah

LIST OF TABLES

Table Page

2.11 Have Discussed Plans for the Future 101 002 11

2.12 First Person With Whom Plans Were Discussed . . . 101 002 13

2.13 Persons With Whom Plans Have Been Discussed at Least Once 101 002 16

2.14 Have Taken an Aptitude Test 101 016 19

2.15 Discussion of Aptitude Test Results 101 016 22

2.21 Identifying a Job from a Written Description - Activities 102 002 24

2.22 Naming Job from Spoken Description 102 011 26

2.23 Identifying a Job from a Written Description - Functions 102 013 28

2.24 Number Correctly Identifying Training Periods of Five Jobs 102 018 29

2.25 Main Reasons for Accepting a Job Promotion . . . 102 023 32

2.26 Main Reasons for Rejecting a Job Promotion . . . 102 023 33

2.27 Reason for Accepting Promotion Mentioned at Least Once 102 023 35

2.28 Reason for Rejecting Promotion Mentioned at Least Once 102 023 36

2.29 Number of Jobs in Which Relative Pay Identified Correctly 102 036 38

2.31 Have a Hobby, Sport, Game, or Activity That Might be Useful for a Job 103 002 42

2.32 One Hobby, Sport, Game, or Activity of Interest Which Might be Useful for a Job 103 002 44

2.33 Job for Which Activity Might be Useful 103 002 46

2.34 Percentages of Respondents Who Named a Given Activity in B and a Given Job Category in C . . . 103 002 48

2.35 How an Interest in Activity Named in B Would be Useful to the Job Named in C 103 002 49

2.36 Percentages of Adults Able to Name Two Job-Related Skills They Have 103 003 53

2.37 Percentages of Adults Able to Name Two Job-Related Skills They Lack 103 003 54

2.38 Percentages of Adults Giving at Least One Response in Each Skills/Abilities Category . . . 103 003 56

2.39 Specificity of Skills and Abilities Names in Parts A and B 103 003 59

2.401 Have One School Subject That Might be Useful for a Job 104 003 63

2.402 Subjects Considered to be Useful for a Job . . . 104 003 64

2.403 Job for Which Subject Named in B Might be Useful 104 003 66

2.404 Pairing of Response Categories in Parts B & C . . 104 003 67

2.405 Percentage Giving Acceptable Responses on Each of 10 Items 104 009 69

2.406 Percentage Giving at Least One Response in Each Category 104 009 70

2.407 Percentage Naming Certain Categories One or More Times 104 009 75

2.408 Percentage Giving Acceptable/Unacceptable Responses on Each Attempt 104 011 77

2.409 Things Can do Now to Find Out More About a Job of Interest 104 011 78

2.410 Percentage Thinking About the Kind of Future Job 104 015 83

2.411 Percentage Acceptably Naming up to 5 Jobs They Have Considered 104 015 84

2.412 Occupations in Which Most Interested 104 015 86

2.413 Specific Occupations in Which Most Interested . . 104 015 89

2.414 Percentage Naming up to Three Liked Things About a Job 104 015 92

2.415 Percentage Naming a "Thing Liked" Category at Least Once 104 015 93

2.416 Percentage Naming Unliked Things About a Job . . 104 015 96

2.417 Percentage Naming a "Things Not Liked" Category at Least Once 104 015 97

2.418 Percentage Naming up to 3 Skills or Abilities Needed to Do a Job 104 015 99

2.419 Percentage Naming up to 3 Appropriate Jobs Using the Same Skills or Abilities 104 015 100

2.420 Work Experience 104 016 103

2.421 Currently Employed 104 016 104

2.422 Things Liked About a Job 104 016 106

2.423 Things Disliked About a Job 104 016 109

2.424 Found a Sense of Satisfaction in Work 104 016 114

2.425 Things About a Job Which Give Satisfaction . . . 104 016 115

3.1 Work Done to Help out at Home 200 002 121

3.2 Percentage Visiting Various Places 200 018 123

3.3 Percentage of Activities Outside of Regular School 200 016 130

3.4 Care of Person Activities Done Without Help . . . 200 019 133

3.5 Homemaking Activities Done Without Help 200 019 135

3.6 Cooking Activities Done Without Help 200 019 137

3.7 Sewing Activities Done Without Help 200 019 139

3.8 Gardening Activities Done Without Help 200 019 140

3.9 Communicative Activities Done Without Help . . . 200 019 141

3.10 Technological (Maintenance) Activities Done Without Help 200 019 144

3.11 Technological/Construction Activities Done Without Help 200 019 146

3.12 Technological/Innovative Activities Done Without Help 200 019 148

4.11 Identified Sock Size Correctly From Table 301 019 153

4.12 Reading Numbers of Tree Plantings from a Bar Graph 301 005 155

4.13 Number of Correct Readings of a Floor Plan . . . 301 010 158

4.14 Identified Larger Fraction Correctly 301 011 162

4.151 Conversions of Seconds and Minutes 301 014
301 033 164

4.152 Conversions of Feet and Inches 301 014
301 034 166

4.153 Conversions of Ounces and Pounds 301 014
301 035 168

4.154 Number of Conversions Correct 301 014 170

4.16 Calculating Finance Charges Paid 301 032 172

4.21 Following Street Directions 302 010 176

4.22 Found Correct Phone Number 302 020 179

4.23 Correctly Addressed an Envelope 302 015 181

4.24 Completed an Order Blank Correctly 302 005 183

4.25 Number of Distinct Discussion Roled Played . . . 302 017 185

4.26 Types of Discussion Roles Played 302 017 187

4.31 Correctly Read Liquid Level in Measuring Cup . . 303 011 191

4.32 Correctly Measured Line Length 303 008 193

4.33 Correctly Represented Position, Dimensionality and Size of Objects 302 012 195

4.34 Correct Representation of Each Concept of Objects 303 012 197

4.41 Proposed Changes in Airline Policy on Marriage 304 001 200

4.42 Proposed Changes in Airline Policy on Sex 304 001 202

4.43 Proposed Changes in Airline Policy on Age 304 001 203

4.44 Proposed Changes in Other Policies 304 001 204

4.51 Have Helped Someone With School Work 305 008 208

4.52	What Done to Help	305 008	209
4.53	Percentage Giving at Least One Constructive Response to How to Help Someone Who Speaks No English	305 009	210
4.54	Percentage Giving Acceptable Responses	305 010	212
4.55	Best Things Boss Dis	305 010	213
4.56	Worst Things Boss Did	305 010	214
4.61	Percentage of Acceptable/Unacceptable Responses	306 006	218
4.62	Percentage Choosing to Apply for Each Job Type	306 009	219
4.63	Job Description	306 009	220
4.64	Job Qualifications	306 009	222
4.65	Kinds of Job Qualifications Mentioned	306 009	223
4.66	Percentage Correctly Including Important Information	306 009	224
4.67	Format of Job Application Letter	306 009	226
5.11	Person at Fault for Mary's Failure	401 003	229
5.12	Acceptable Reason Given	401 009	232
5.13	Means Proposed to Change Rule	401 013	234
5.31	Steps Copied Correctly	403 004	238
5.32	Correct Direct Action When Not Clear	403 005	240
5.33	Identifying Least Worthwhile Discussion Topic	403 010	242
6.11	Reasons for Difficulty in Getting Job	501 009	246
6.12	Believe Worker Can Like a Repetitive Job	501 011	250
6.13	Reasons Worker Might Like Repetitive Job	501 011	252
6.31	Person(s) Responsible for Choosing Respondent's Job	503 011	255
6.32	Activities Would Enjoy if a Millionaire	503 012	257
6.41	Child Labor Laws Should Be Continued	504 005	262
6.42	Reason for Continuing Child Labor Laws Mentioned at Least Once	504 005	264

Chapter 1*

THE CAREER AND OCCUPATIONAL DEVELOPMENT SURVEY OF THE NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

The Assessment

The National Assessment of Educational Progress (NAEP) was initiated in 1964 in response to need for a record of the outputs as well as the inputs of education. The project goals include collection and reporting of information about specific educational achievements of young people in the United States, detection and reporting of changes in that achievement, conduct of special studies into selected areas of educational achievement, and encouragement of policy applications of the new data.

NAEP surveys the educational attainments of four milestone age groups: nines, thirteens, seventeens and adults (ages 26-35). Nines have been exposed to the basic program of primary education; thirteens have finished their elementary school program; and seventeens are completing the high school program. Seventeens also include a sample of out-of-school youth. Adults represent a group who have completed their formal education and have been away from school for a number of years.

Ten educational areas are assessed in five year cycles. These are: art, career and occupational development, citizenship, literature, mathematics, music, reading, science, social studies and writing. Each six-year cycle includes the following steps: development and review of objectives by subject matter specialists and educators, development and field testing of exercises to measure the objectives, administration of exercises to national samples at the four age levels, and data analysis and interpretation.

---

* All but "The Early Career Development Results" of Chapter 1 were adapted by David V. Tiedeman from similar introductions of the Career Development Needs reports of this series which were developed with this report under the General Editorship of Juliet V. Miller. David V. Tiedeman wrote "The Early Career Development Results."

The Objectives

The survey of career and occupational objectives which was administered during the 1973-74 school year used exercises to measure the following objectives and sub-objectives:

I. Prepare for making career decisions

  A. Know own characteristics relevant to career decisions

  B. Know the characteristics and requirements of different careers and occupations

  C. Relate own personal characteristics to occupational requirements

  D. Plan for career development or change

II. Improve career and occupational capabilities

III. Possess skills that are generally useful in the world of work

  A. Have generally useful numerical skills

  B. Have generally useful communication skills.

  C. Have generally useful manual-perceptual skills

  D. Have generally useful information-processing and decision-making skills

  E. Have generally useful interpersonal skills

  F. Have employment seeking skills

IV. Practice effective work habits

  A. Assume responsibility for own behavior

  B. Plan work

  C. Use initiative and ingenuity to fulfill responsibilities

  D. Adapt to varied conditions

  E. Maintain good health and grooming

V. Have positive attitudes toward work

  A. Recognize the bases of various attitudes toward work

  B. Hold competence and excellence in high regard

  C. Seek personal fulfillment through own achievement

  D. Value work in terms of societal goals

This is the total range of objectives used in the COD assessment. Not all sub-objectives were assessed for each age level. In addition, the released exercises interpreted here failed to include any items from subsections IV.B, IV.D, IV.E, or V.B. Each publication in this Early Career Development series describes the specific sub-objectives assessed as necessary.

The Exercises

The development of the COD objectives and exercises was completed by the American Institutes for Research under contract with the NAEP. The exercises were extensively reviewed and tested prior to the actual assessment, and were developed in consultation with educators, subject specialists and lay persons. The exercises are a unique aspect of NAEP. In addition to multiple choice items, NAEP uses other exercise formats such as open-ended questions and individual performance items.

In any NAEP assessment, one-half of the exercises are released to the public while one-half remain unreleased so that they can be used again in future assessments. This series reports only the results for the released career and occupational development exercises. Individuals who are interested in using the released exercises locally can obtain copies of the exercises and their scoring instructions by ordering the Career and Occupational Development Technical Report: Exercise Volume from the Assessment Office in Denver, Colorado.

The Survey

NAEP administers exercises to national samples at each age level. Exercises are administered in packages which contain several exercises and which can be administered in a reasonable time period. Packages are administered to a national sample which is stratified by region of the country, size of the community and socioeconomic level. About 100,000 respondents were sampled in the 1973-74 Survey of Career and Occupational Development. However, not all respondents took all exercises. For example, more than 35,000 thirteens participated in the assessment but only 2,200-2,700 thirteens responded to any one of the exercise packages. The total number of respondents included in each age group was as follows: nines - 28,281; thirteens - 38,289; seventeens (in school) - 34,211; seventeens (out of school) - 994; and adults - 2,138.

The Data

The Career and Occupational Development Survey is an objective-referenced assessment. This means that the results are reported in percentages of the total group or specific sub-group which gave acceptable or otherwise categorized responses for a specific exercise related to a specific career and occupational development objective. No attempt is made to summarize overall performance for individuals. Objective-referenced results are helpful in providing insights into the current achievement levels of specific groups on each of the measured objectives.

The Early Career Development series reports P-values for various exercises. The P-values are weighted estimates of the total population percentages. Thus, for example, a statement that, "90% of nines gave an acceptable response," means that 90% is an estimate of all the nines in the United States who would have given an acceptable response if the total population had been assessed.

The Early Career Development Results

Figure 1.1 offers a condensed cross-sectional depiction of early career development as revealed by the 1973-74 National Assessment of Educational Progress. As indicated in the Key to Depiction of Incidences in Figure 1.1, a clear rectangle denotes career and occupational behavior which is relatively absent in the age group. Quantitatively the clear rectangle is used when the national incidence was zero percent or greater but less than 25 percent. A stippled rectangle reports that a behavior is moderately present, it being expected in 25 or greater percent of an age group but not as many as 50 percent of the age group. A hatched rectangle reports that a behavior has started to become reasonably entrenched, its incidence being in 50 percent or more of the age group in the nation but not as many as 75 percent of the group. Finally, a blackened-in rectangle indicates that a behavior has become fairly universal in the age group, it having appeared in 75 percent or more of the group. In the subsequent interpretations of Figure 1.1, the terms, "relatively absent," "moderately present," "reasonably entrenched," and "relatively universal" denote each of these ranges respectively. Although an incidence of 51 percent in an age group qualifies as "reasonably entrenched" be definition, the reader might well question the depth of the behavior's entrenchment when it exists in only slightly more than a majority of an age group as later reported exactly in the remainder of this report. An overview without full detail exacts such a price in meaning.

See Figure 1.1, p.5b

The reader is due another note of caution before turning to the results. In fewer than 5 percent of the reports in the Depiction, percents close to boundaries were depicted in the same category as an adjoining age group in order not to suggest developmental change when age group differences were very small. For instance, an incidence of 47 percent among nines and 50 percent among thirteens will probably be recorded as two stippled rectangles rather than as a stippled rectangle for the nines and a hatched rectangle for the thirteens. This conservative convention minimizes the developmental changes to which your attention will be drawn in the Depiction. Complete results are reported in subsequent chapters.

Finally, the specific questions are condensed in the Depiction to provide meaningful impressions. Each question is explained in greater detail in subsequent chapters.

I. Prepare for Making Career Decisions

A. Know Own Characteristics Relevant to Career Decisions

Talk about career plans becomes moderately entrenched in seventeens. As might be expected, parents are moderately likely to be the first consulted about career plans but are pretty generally consulted sometime. Counselors and peers are moderately likely to be consulted at least once but whomever is consulted is pretty generally likely to be older than the respondent.

Surprisingly, the incidence of having taken an aptitude test is only moderately present among seventeens and its discussion with an advisor is practically non-existent.

Figure 1.1.

A CONDENSED CROSS-SECTIONAL DEPICTION OF EARLY CAREER DEVELOPMENT

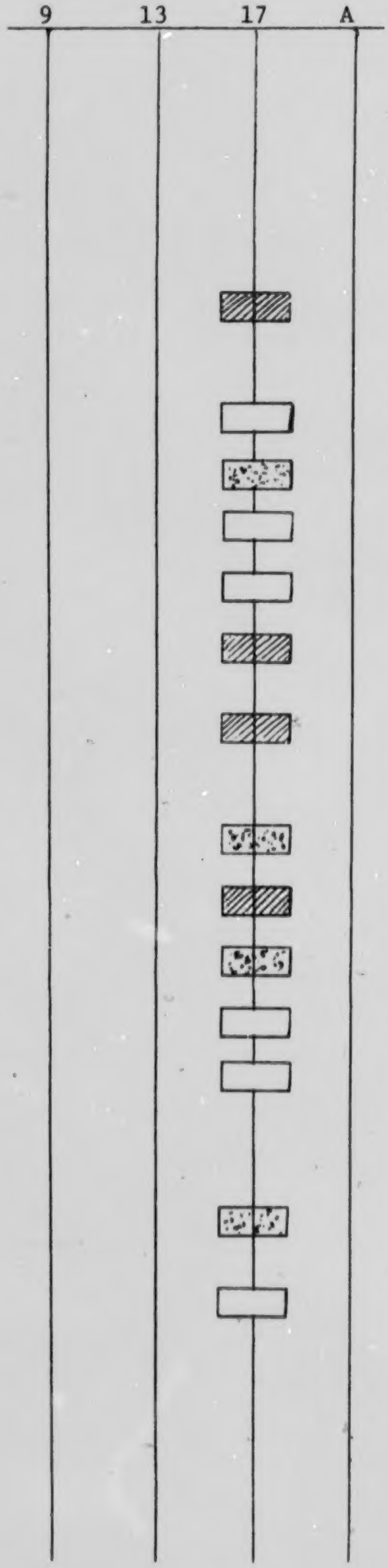
Key to Depiction of Incidences:

☐ incidence relatively absent ($0 \leq \text{percent} < 25$)
░ incidence moderately present ($25 \leq \text{percent} < 50$)
▨ incidence reasonably entrenched ($50 \leq \text{percent} < 75$)
■ incidence relatively universal ($75 \leq \text{percent} < 100$)

I. PREPARE FOR MAKING CAREER DECISIONS

A. Know Own Characteristics Relevant to Career Decisions

1. Talked seriously to someone about career plans? (101 002)
   - a. Yes
   - b. Who was consulted first?
     - 1) Peers
     - 2) Parents
     - 3) School counselor
     - 4) Other counselor
   - c. Person consulted was older
   - d. Person consulted was aware of abilities
   - e. Who was consulted at least once?
     - 1) Peer
     - 2) Parents
     - 3) Counselor
     - 4) Teacher
     - 5) Other adult
2. Have you ever taken an aptitude test? (101 011)
   - a. Yes
   - b. Discussed with an adviser? (includes counselor)



	9	13	17	A
I. B. Know the Characteristics and Requirements of Different Careers and Occupations				
1. Identify each of five common occupations (i.e. nurse, mailcarrier, secretary, service station attendant, newscaster) from functional descriptions (102 002)	■	■		
2. Name a job from a brief description (102 011)				
a. Machinist		□	□	▒
b. Architect		▒	▨	▨
c. Teller		▨	■	■
d. Locksmith		▨	■	■
e. Baker		■	■	■
3. Answer specific questions about specific jobs (102 013)				
a. Each of 8 jobs (i.e. auto repairman, secretary, accountant, chemist, carpenter, social worker, watch repairman, secretary)		■	■	■
b. X-ray technician		□	□	▒
4. Knowledge of length of training required by at least four of five jobs (102 018)			▒	▨
5. Correctly identifies earnings of at least 3 of 4 jobs (102 031)		▒	▨	■
6. Main reasons a job promotion would be accepted (102 023)				
a. Personal satisfaction			□	□
b. Challenging			□	□
c. Working conditions			□	□
d. Status and prestige			▒	▒

I. B. 7. Main reasons a job promotion would be refused (102 023)

a. Dislikes working conditions

b. Doesn't deserve it

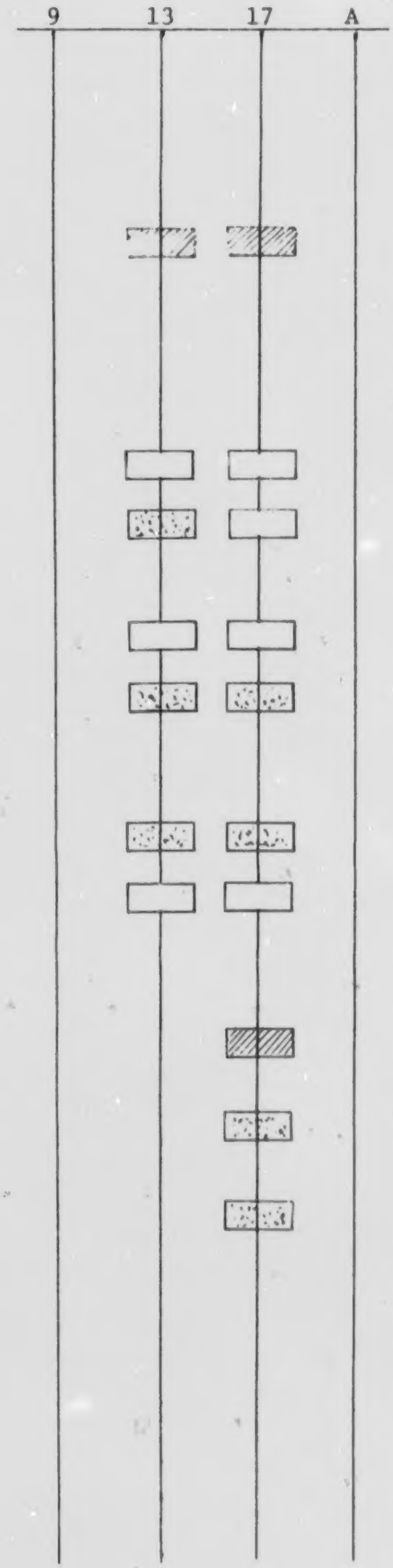
c. Interpersonal reasons

d. Doesn't like new job

e. Too much responsibility

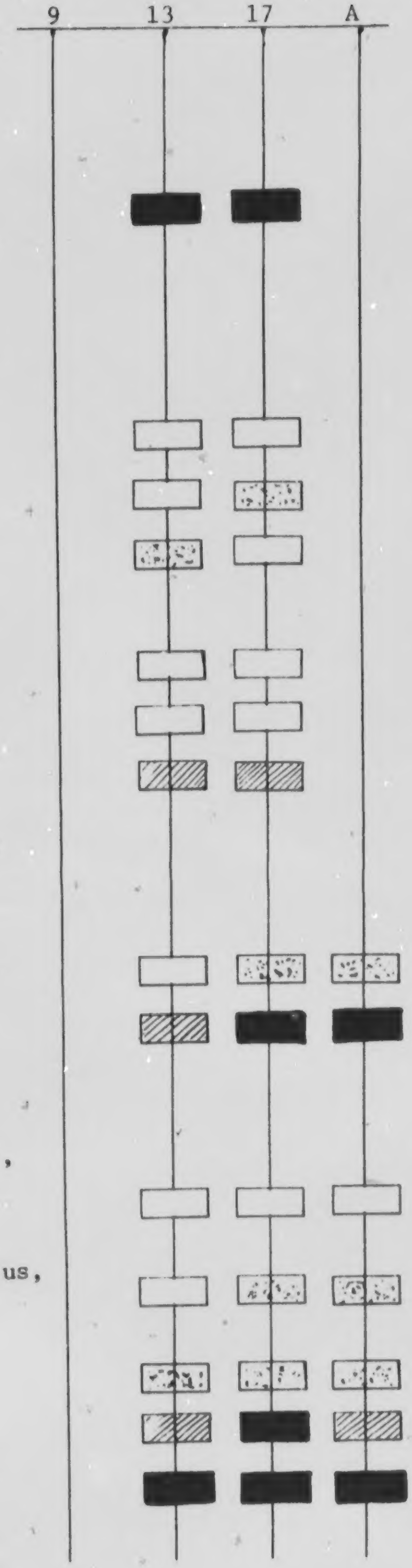
I. C. Relate Own Characteristics to Occupational Requirements

1. Translating current interests into job requirements (103 002)
    - a. Believe they have such interests
    - b. What is it?
        - 1) Each of games, individual sports, musical or artistic abilities, hobbies and crafts, school or academic areas, household skills
        - 2) Group sports
    - c. For what job is it useful?
        - 1) Related or teaching it
        - 2) Professional doing same thing
    - d. How useful?
        - 1) Knowledge or experience in field
        - 2) Interest can help in the job
2. If looking for a job: (103 003)
    - a. Can name two job-related skills they have
    - b. Can name two job-related skills they lack
    - c. Either of which is a specific skill/ability



I. D. Plan for Career Development or Change

1. Have at least one school subject useful for a job? (104 003)
   - a. Yes
   - b. What subject?
     - 1) Each of science, English, the arts, social science, physical education, foreign language, industrial arts, home economics, vocational education
     - 2) Business education
     - 3) Mathematics
   - c. For what job?
     - 1) Professional in field named
     - 2) Teacher of field named
     - 3) At least vaguely related
2. List 10 things to consider in choosing a job or career (104 009)
   - a. How many?
     - 1) All 10 acceptable
     - 2) At least 5 acceptable
   - b. What kind?
     - 1) Each of ethical considerations, possible discrimination, responsibilities, duties
     - 2) Each of job availability, status, interpersonal relations
     - 3) Each of job qualifications, personal abilities
     - 4) Personal satisfaction
     - 5) Working conditions



I. D. 3. Name 5 things to do now to find out more about a job you are interested in (104 011)

a. How many?

1) At least one acceptable

2) All 5 acceptable

b. How?

1) Each of from school, teacher

2) Counselor

3) Each of reading or contacting employer

4) People in field

4. With regard to a job you would like to have in the future (104 015)

a. Have thought about it

b. Name up to 5 considered

1) All 5

2) At least 3

3) At least 1

c. Occupational category in which not interested?

1) Each of 16 specific categories

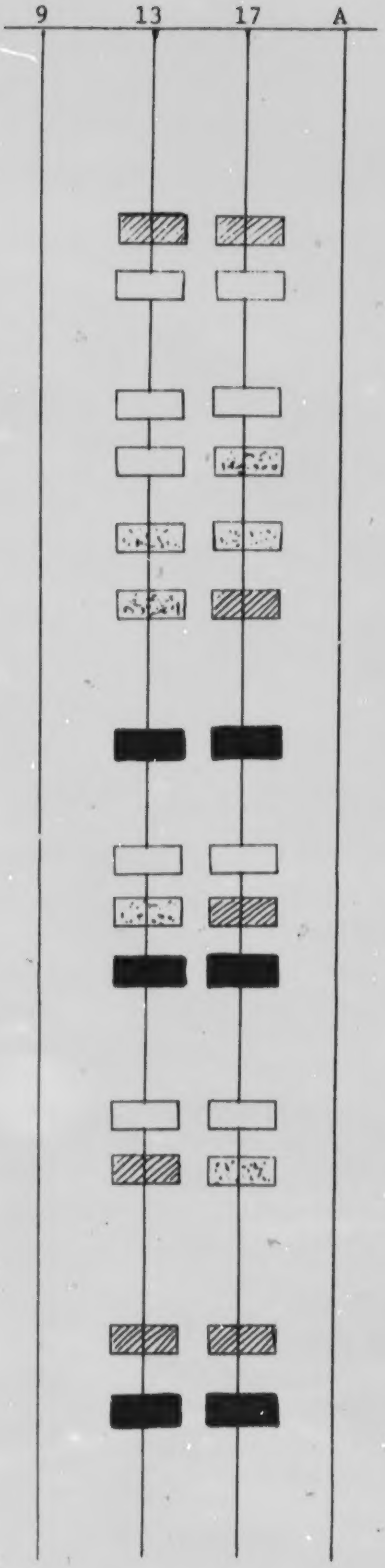
2) Professional

d. Name 3 things would like about job

1) How many

a) All three

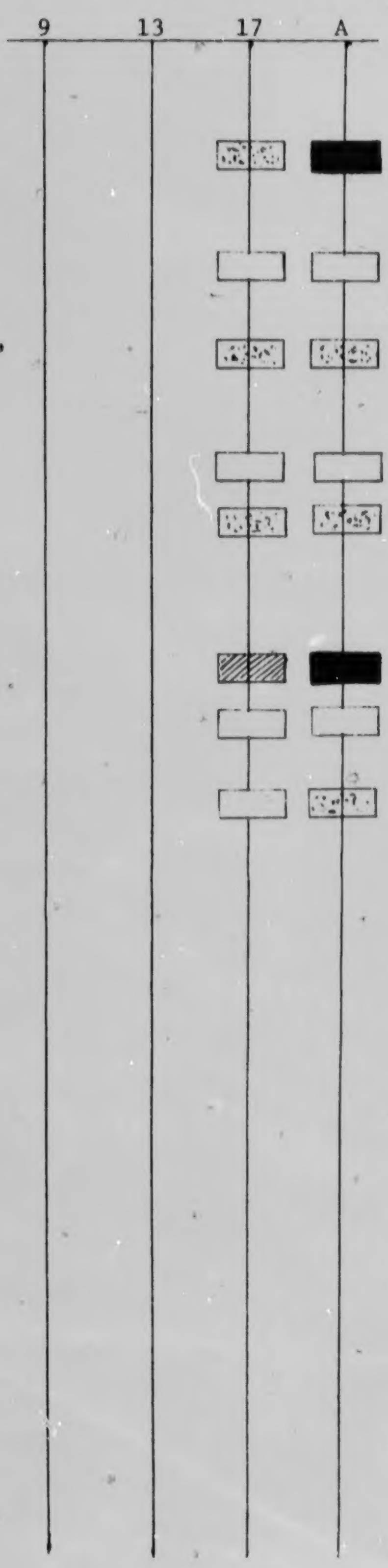
b) At least one



	9	13	17	A
I. D. 4. d. 2) What kind?				
a) Each of responsibility, prestige, job availability, job qualifications, personal abilities		☐	☐	
b) Helping people		▨	☐	
c) Each of mechanical aspects, interpersonal relations		☐	░	
d) Duties		▨	▨	
e. Name 3 things would not like				
1) How many?				
a) All three		░	░	
b) At least one		▨	▨	
2) What kind?				
a) Each of responsibility, helping people, prestige, job availability, job qualifications, personal abilities, interpersonal relations		☐	☐	
b) Each of duties, mechanical aspects		░	░	
f. Name 3 skills needed to do your desired job				
1) All three		░	░	
2) At least 1		▨	▨	
g. Three jobs using same skills/abilities				
1) All three		░	░	
2) At least 1		▨	▨	

I. D. 5. Employment experience and desires (104 016)

- a. Now working full time
- b. Things liked about a job
  - 1) Each of 31 things
  - 2) Each of working conditions, pay, interpersonal relations
- c. Things disliked about a job
  - 1) Each of 37 things
  - 2) Working conditions
- d. Something in work gave a sense of satisfaction
  - 1) Yes
  - 2) Each of 34 things
  - 3) Ability to produce a quality product



II. IMPROVE CAREER AND OCCUPATIONAL CAPABILITIES

A. Work is done to help out at home (200 002)

B. Kinds of sites visited (200 018)

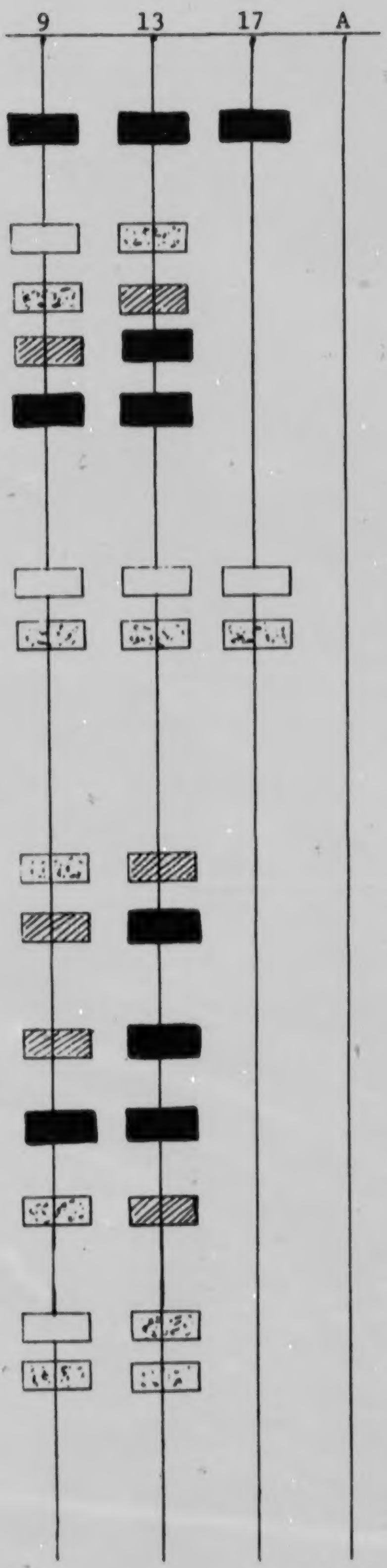
1. Newspaper plant
2. Dairy, college, planetarium
3. Factory, acquarium
4. Farm, zoo, museum, airport, library

C. Lessons, training, or courses taken outside of regular school (200 016)

1. Each of school or academic areas, an organization, group sports
2. Each of individual sports, the arts

D. Activities done without help (200 019)

1. Personal and family living activities
    - a. Care of persons
        - 1) Taken own temperature
        - 2) Baby sat
    - b. Home making
        - 1) Ironed clothes
        - 2) Each of changed sheets, washed dishes, washed windows
    - c. Cooking - each of baked cake, cooked complete meal
    - d. Sewing
        - 1) Made clothes for self
        - 2) Knit



	9	13	17	A
II. D. 1. e. Gardening	■	■		
2. Communicative activities				
a. Ordered from a catalogue	░	░		
b. Each of shopped, used library, card catalogue, written a report	▨	■		
c. Written a letter	■	■		
3. Technological activities				
a. Maintenance				
1) Drawn a map	▨	■		
2) Each of painted an object, put batteries in a flashlight	■	■		
b. Construction				
1) Each of built or carved something of wood, made a toy	▨	▨		
2) Set the time on a clock	■	■		
c. Innovation				
1) Each of inventing a game, designing something to make	▨	▨		

III. POSSESS SKILLS THAT ARE GENERALLY USEFUL IN THE WORLD OF WORK

A. Have Generally Useful Numerical Skills

	9	13	17	A
1. Reasoning with numerical data presented in a display				
a. Reading table of show sizes (301 019)		▨	■	■
b. Reading a bar graph (301 005) - all three readings		▒	▒	▒
c. Reading a floor plan (301 010) - all three readings		□	▒	▒
2. Conversion from one scale to another				
a. Identifying which of four fractions exceeds a stated decimal (301 011)		▨	■	▨
b. Conversions of minutes and seconds (301 033, 301 014)				
1) Minutes to seconds	▨	■	■	■
2) Seconds to minutes	□	▒	▨	▨
c. Conversion of feet to inches (301 034, 301 014)				
1) Feet to inches	▨	■	■	■
2) Inches to feet	□	▒	▨	▨
d. Conversions of pounds and ounces (301 035, 301 014)				
1) Ounces to pounds	▒	■	■	■
2) Pounds to ounces	□	▨	■	■
e. Six correct conversions in b, c, & d		□	▨	▨
3. Calculating				
a. Calculating amount of finance charge paid in a two-year period (301 032)		□	▒	▨

III. B. Have Generally Useful Communication Skills

1. Follow 3 street directions (302 010)

2. Find telephone number from book within five minutes (302 020)

    a. Within first minute

    b. Within five minutes

3. Addressing an envelope (302 015) - all six parts correct

4. Fill out an order blank (302 005) - all six parts correct

5. Discussion activities with organized groups within last 12 months (302 017)

    a. Lead

    b. Spoke or reported

    c. Participated

    d. All three

C. Have Generally Useful Manual-Perceptual Skills

1. Read quantity of liquid depicted in a measuring cup (303 011)

2. Determine length of a 3 3/8 inch line (303 008)

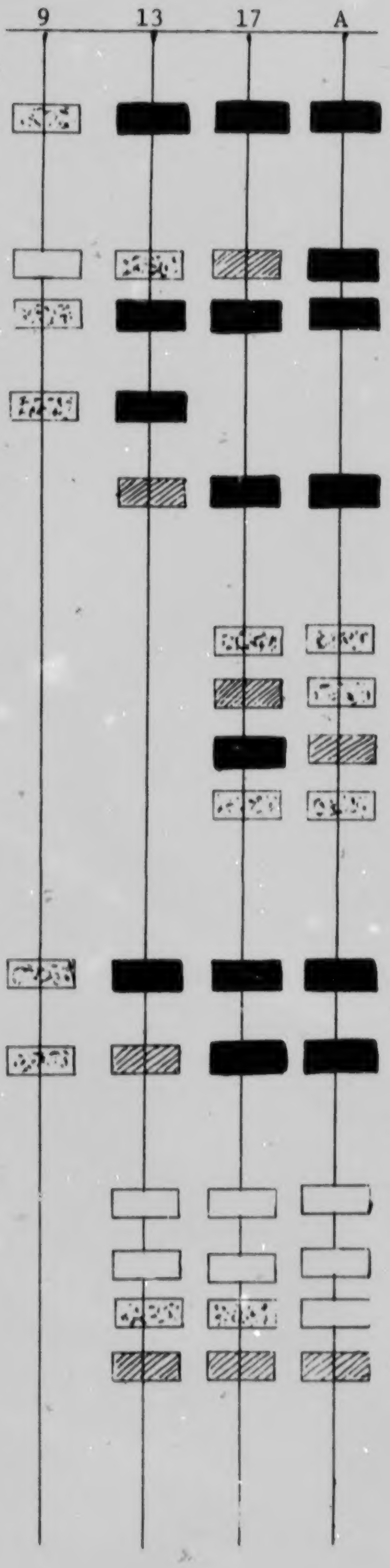
3. Sketching four objects in three dimensions (303 012)

    a. Position, 3-dimensionality and size

    b. Relative sizes

    c. Position

    d. 3-dimensionality

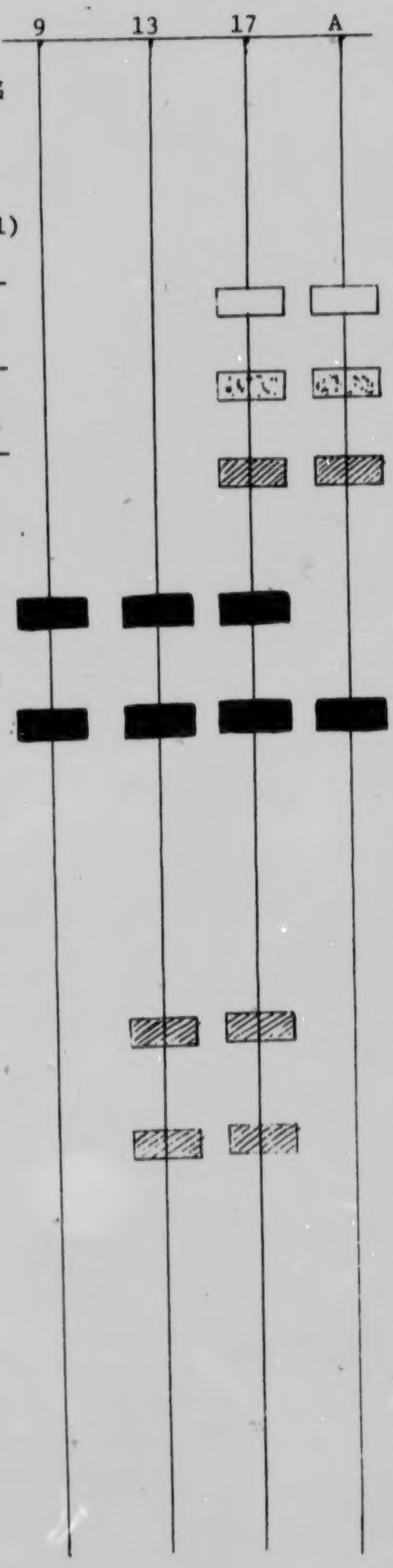


III. D. Have Generally Useful Information-Processing and Decision-Making Skills

1. With respect to airlines limiting hiring of stewardesses to unmarried women between ages of 21 and 35 (304 001)
    a. Recommends at least some liberalization of policy re sex
    b. Recommends at least some liberalization of policy re age
    c. Recommends at least some liberalization of policy re marriage

E. Have Generally Useful Interpersonal Skills

1. Has helped another with school work (305 008)
2. Offers at least one constructive way to help someone who speaks almost no English (305 009)
3. After viewing a film showing a supervisor in action: (305 010)
    a. Identify four of following things as best things supervisor did: organized task, explained task, helped employees with the task, polite, accepted suggestions, praised good work, utilized employees strong points
    b. Identify four opposites of things in (a) as four worst things supervisor did



III. F. Have Employment-Seeking Skills

1. List five acceptable kinds of part-time work people your age do to earn money in or near your town (306 006)

2. In relation to an advertisement: (306 009)

   a. Letters of application were written for salesperson

   b. Letters of application were written for apprentice mechanic

   c. Letters of application were written for office helper

   d. In their letters, respondents formatted correctly

      1) Return address

      2) Date, inside address

      3) Greeting, closing, signature

   e. In their letters, respondents correctly handled mentioning of:

      1) References, reason(s) for wanting job

      2) Interview

      3) Contact

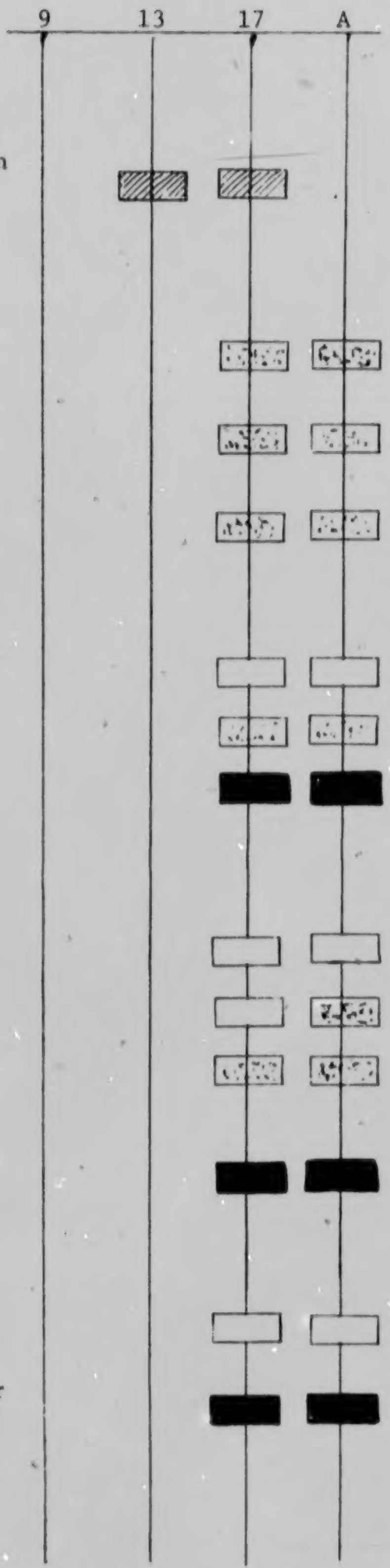
   f. In their letters, respondents:

      1) Described the job correctly

      2) Described their qualifications

         a) By including relevant personal qualities

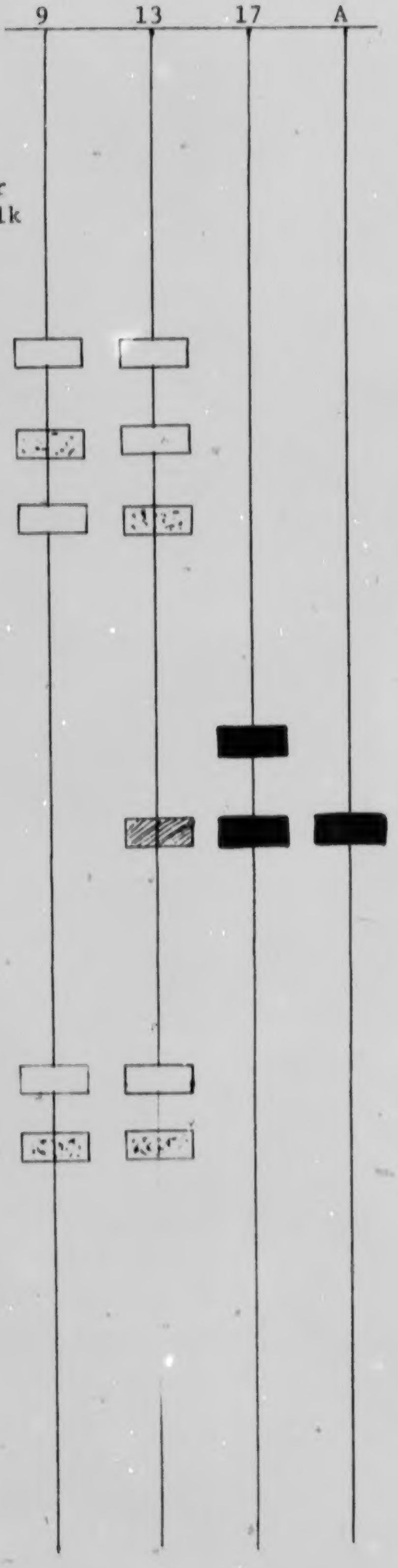
         b) By correctly including their high level qualifications



IV. PRACTICE EFFECTIVE WORK HABITS

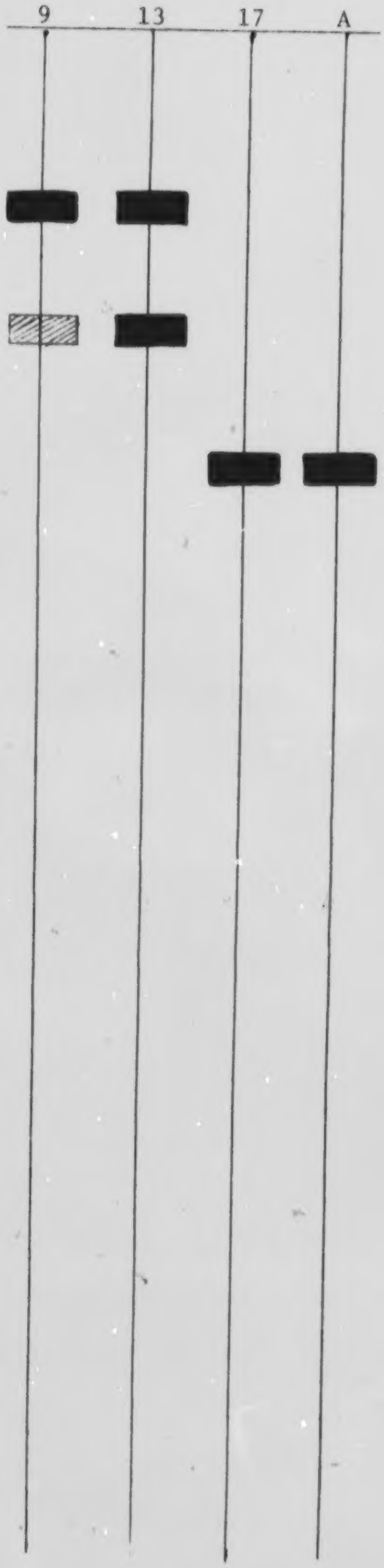
A. Assume Responsibility for Own Behavior

1. When going to the store to get bread for mother, Mary is stopped by Tom, they talk so long the store closes, and Mary returned without the bread (401 003) Fault was ascribed to
   a. Mary for talking too long
   b. Tom for talking too long or for not letting Mary leave
   c. No one because Mary didn't want to be rude
2. With respect to an injury you inflict on another while operating a factory machine without safety shield in place as required, respondent: (401 009)
   a. Accepts responsibility for accident
   b. Offers an acceptable reason for responsibility
3. In trying to get an unfair rule changed, would do: (004 013)
   a. Each of obey, talk it over with a peer or with someone without authority, protest or petition, enlist the aid of one's representative
   b. Discuss with someone in authority



IV. C. Use Initiative and Ingenuity to Fulfill Responsibilities

1. Does each of three things correctly in folding and stapling two sheets of paper to conform to a model (403 004)
2. Would ask question of a teacher if failed to understand what had to be completed tomorrow (403 005)
3. Correctly identifies one of four least worthwhile questions to ask a supervisor discussing a new rush manufacturing order (403 010)



V. HAVE POSITIVE ATTITUDES TOWARD WORK

A. Recognize the Bases of Various Attitudes Toward Work

1. Names each of the following as one of six reasons why people willing to work find it hard to get work: (501 009) age, race, sex, appearance, personality/manners

2. Can a person like a repetitive job? (501 011)

   a. Yes

   b. For each of the following reasons: likes it, likes pay, likes routine, likes associates, likes material used, likes mental aspects, satisfied if doing job well, only job could get

C. Seek Personal Fulfillment Through Own Achievements

1. Believe that following should finally decide on the work one should do for a living (503 011)

   a. Each of parents or respondent and parents, persons other than parents or respondent and others

   b. Respondent alone

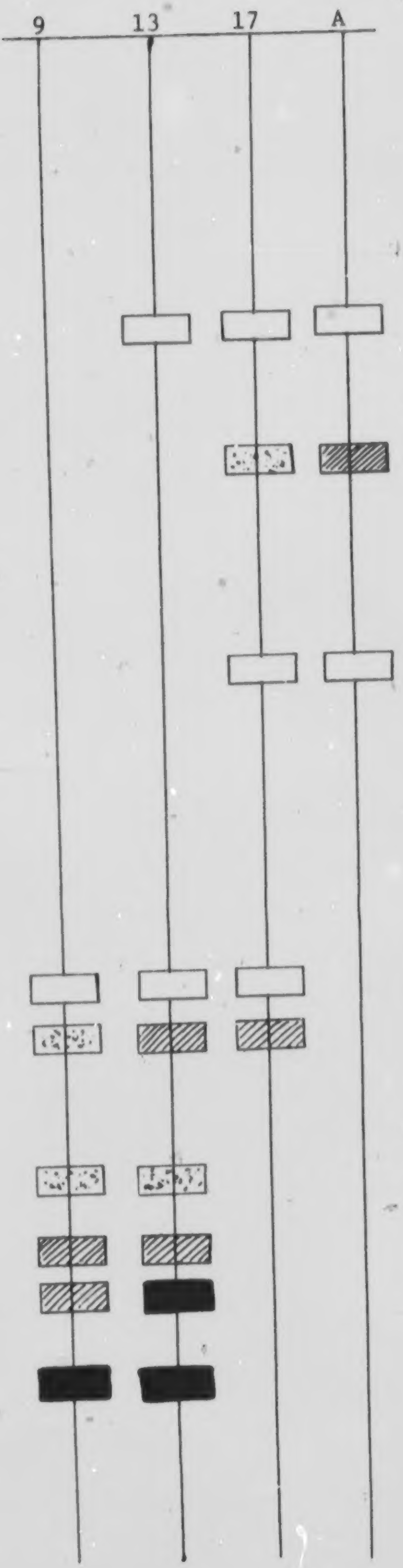
2. If a millionaire, respondent would enjoy (503 012)

   a. Building houses or gardening

   b. Raising race horses

   c. Giving to charity

   d. Each of traveling, learning new things



V. D. Value Work in Terms of Societal Goals

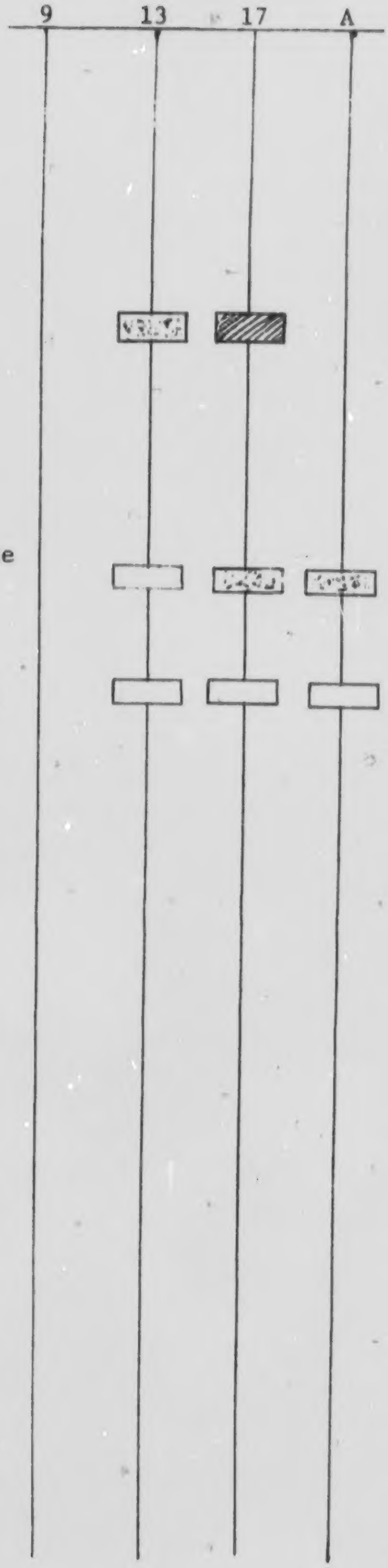
1. Child labor laws should be continued: (504 005)

   a. Yes

   b. For each of the following Reasons:

      1) To protect childrens' physical and emotional well being, to let them gain education unencumbered by work, and because they are not qualified to work

      2) Children easily exploited by parents and employers, and to allow more adults to be employed



It doesn't appear that counselors universally figure in American's career planning.

B. Know the Characteristics and Requirements of Different Careers and Occupations

Identification of common occupations is rather universal even among nines. Identification of a job from a brief description tends to become more universal later than nine. There is a gradient of universality depending on the job. Bakers, locksmiths and tellers are universally identified by seventeen but architects and machinsts are less frequently identified even by adults.

Except for x-ray technician which is never more than moderately associated with spcific statements about it, thirteens, seventeens, and adults pretty universally are able to answer specific questions about specific jobs which are in public awareness quite a bit. This knowledge even extends in less of the population and at a later time in development to knowledge of lengths of training and the specific earnings of many of these visible jobs.

Only status and prestige along with heavy responsibility are moderately present as reasons why respondents would accept or refuse a job promotion respectively. It appears that even among seventeens and adults, there are no universal values which Americans follow in the pursuit of that elusive thing called job progress.

Surprisingly, there seems to be a fair amount of occupational knowledge seeded among the American population. Although we must be selective in our application of this result, the result does suggest that some diminution of excessive doses of occupational information might be in order for some Americans.

C. Relate Own Characteristics to Occupational Requirements

An important career skill is the capacity to translate one's own characteristics into occupational requirements so that each individual can find employment in which satisfaction and success coexist. Despite numerous efforts to do this for persons, we still haven't found a foolproof means of doing so. Hence it is of interest to see the degree to which this skill is developed.

Notice that belief that one has an interest is fairly universally entrenched at thirteen. However, except for group sports which is moderately present as an interest among thirteens, most of the interests named occur with slight incidence and are rather general to home and school activities. In addition, the translation skill hasn't matured in many Americans even by seventeen. The translations of interests to jobs are moderately present only with an association of being a professional in the same thing in which one is interested and the reason why the interest can be useful is largely limited to indicating that it offers some relevant knowledge and experience in the field. With adults, these relational skills are moderately entrenched in terms of naming two job-related skills they have and dwindles to being only moderately present in the identification of two job-related skills they lack, either of which is a specific skill or ability.

D. Plan for Career Development or Change

A cursory glance at the released exercises of this sub-section should quickly point out the similarity of the skills assessed here to those assessed in the prior sub-section. This time, however, the interest-to-possibility translation has been extended to the skills involved in planning for taking a job. Note that there are five questions dealing with (1) the translation of school subjects into job possibilities, (2) the listing of factors of relevance to job choice, (3) indicating how to learn more about jobs in which one is interested, (4) indicating how far one has gone in job planning, and (5) the status of first-hand job familiarity among seventeens and adults.

At thirteen and seventeen, respondents almost universally believe they have studied at least one school subject which will be useful in a job. The subject is business education which occurs with moderate incidence among seventeens and mathematics which occurs with the same moderate incidence among thirteens. However, respondents at these ages can only vaguely relate their school subjects to job requirements.

Seventeens and adults can name ten things acceptable in the choice of a job with moderate incidence, and at least five universally. Thirteens are a category below these incidences in each instance. Working conditions are almost universally named at all three ages with personal satisfaction being reasonably entrenched as well. The remaining things occur with less incidence.

Thirteens and seventeens aren't very likely to name five acceptable things they can do now to find out about a job in which they are interested but the capacity to name at least one acceptable thing is reasonably entrenched in both age groups. Counselors are named as a source of such information in only moderate incidence among seventeens while thirteens seldom identify counselors as an information source. Fortunately, people in the job's field are reasonably entrenched as an information source by seventeen.

Thirteens and seventeens have fairly universally thought about a job they would like to have in the future and can name at least one such job. However, the capacity to name as many as five such jobs is practically absent in both age groups. Naming three jobs seems to be the extent of this capacity in a moderate proportion of thirteens and in a more entrenched proportion of seventeens. Professional jobs are reasonably likely to be included as one of the three jobs considered. The remainder of exercise 4 indicates that job thinking has become slightly differentiated in moderate to entrenched proportions of thirteens and seventeens in the United States. This differentiation extends to being able to name three things they would like about a considered job, as well as three things they would not like. They can also reasonably frequently name three skills needed to do a desired job as well as three jobs which use the same skills or abilities.

Finally, exercise 5 reports the employment experience and desires of seventeens and adults. A moderate proportion of seventeens are working full time but adults are almost universally working. A sense of satisfaction with work was reasonably entrenched among seventeens and almost universally present among adults. The specific things which seventeens and adults like and dislike about a job or which gave them a sense of satisfaction from work were so variable that the incidence of each one of them was practically non-existent. The most frequently mentioned ones were working conditions, pay, and interpersonal relations as liked in a job; working conditions as disliked in a job; and ability to produce a quality product as something which gave a sense of satisfaction at work.

Summary

The emerging picture so far then appears to be that Americans don't confer much with counselors about career plans, do have a fair amount of common occupational knowledge, but even as adults don't have well developed skills for translating who they are and what they have done into what they might do. This latter observation needs tempering by realization that, with regard to job planning, at least by seventeen, Americans have developed a few capacities which help them translate their school experience into job planning. The differentiated circumstances at this time are that a handful of jobs have been considered and respondents know some means of getting further information. Finally, Americans are pretty universally at work as adults and report that their work does give them a sense of satisfaction. Such an observation should make us wonder about how much career counseling children, adolescents, and young adults actually need. However, when only the very faint indications of differentiated career skills emerge as they do in these NAEP data, they should really whet the appetites of those career counselors who seek to develop career relevant skills. These data indicate the large amount of room left for further education in translating interests into job possibilities and the further differentiation of job planning skills.

II. Improve Career and Occupational Capabilities

Youths undertake numerous activities which improve their career and occupational capabilities. Almost universally, nines, thirteens, and seventeens report that they have worked around home to help out. Nines and thirteens also almost universally visit farms, zoos, museums, airports, libraries, factories, and acquaria although it is a somewhat moot point about how much career skill and focus such visits have provided. Only a small proportion of nines, thirteens, and seventeens have taken lessons, training, or courses outside of school except for individual sports and the arts which are taken by a moderate proportion of each age group. Hence, even their direct learning activities still don't have too much significance for career skills and development. However, with regard to common activities done at and around home, the data suggest that most personal and family living, gardening, communication, maintenance, construction, and innovation activities are pretty well entrenched among nines and thirteens.

Chores, common activities, visits, and lessons abound among American youths. These activities can form the basis of career skill and development if focused with such purposes in mind as they occur or relatively soon afterwards.

III. Possess Skills that are Generally Useful in the World of Work

A. Have Generally Useful Numerical Skills

Conversions of minutes to seconds, feet to inches, and ounces to pounds become and remain almost universal by thirteen. Conversions in the reverse direction which ordinarily involve fractions only become entrenched by about seventeen and persist at only this level with adults. Reading tables of shoe sizes becomes almost universal by seventeen but reading bar graphs and floor plans remain no more than moderately present among thirteens, seventeens and adults. Calculating the amount of a finance charge paid over a two year period progresses from being almost absent through moderately present to reasonably firmly entrenched from thirteen to adult years.

It appears then that generally useful numerical skills emerge in the order of conversion from one to another metric, to reasoning with numerical data presented in a display, and on to simple calculating. All these skills are reasonably well entrenched among adults.

B. Have Generally Useful Communication Skills

Following simple street directions, finding a telephone number in a book within five minutes, and addressing an envelope are generally useful communication skills which are almost universally available in the United States population at thirteen. However, finding that number in the telephone book within only one minute doesn't become universal until adult age.

Participation in discussion with organized groups is reasonably entrenched by seventeen as is speaking or reporting. However, leading a group is only moderately present in both seventeens and adults.

C. Have Generally Useful Manual-Perceptual Skills

Reading the quantity of a liquid depicted in a measuring cup is an almost universal skill by thirteen. Determining the length of a 3 3/8 inch line is firmly entrenched at thirteen but doesn't become almost universal until seventeen. Representing the three dimensionality of a four object model is reasonably entrenched at thirteen as well and never becomes almost universal among adults. Representing the position and relative sizes of the four objects is a less proportionately available skill although position representation is moderatley found among thirteens and seventeens.

D. Have Generally Useful Information-Processing Skills

When confronted with a problem of recommending the liberalization of an airline hiring policy restricting the hiring of stewardesses to that of unmarried females between 21 and 35 years of age, at least liberalization of the marriage restriction is reasonably firmly entrenched among seventeens and adults. However, liberalization of the age policy is to be found in only a moderate proportion of these age groups and liberalization of the sex limitation is practically never recommended. It appears that seventeen-year old and adult Americans like female stewardesses, would prefer them young but don't worry as much about whether they are married or not.

E. Have Generally Useful Interpersonal Skills

Persons in the United States seem almost universally to have helped another with school work from age nine on. They also almost universally offer at least one constructive way to help someone who speaks almost no English from that age on as well. Finally, after viewing a film showing a supervisor in action with workers, the capacities to identify four things which the supervisors did best and worst each are also reasonably entrenched among thirteens and seventeens. It appears then that in these relatively simple interpersonal skills, most Americans have them from age thirteen on.

F. Have Employment-Seeking Skills

Knowledge of five kinds of part-time work which people ages thirteen and seventeen do to earn money is reasonably entrenched in these age groups. In writing a letter applying for a job in response to an advertisement, seventeen-year old and adult respondents are about equally split among applying for the jobs of salesperson, apprentice mechanic, and office helper. The letters which they write are almost universally accurately formatted with regard to greetings, closing, and signature but the date, inside address, and return address are done accurately in only moderate proportions of the age group or less. The same proportions held with regard to substantive essentials such as including names of persons from whom references could be obtained, asking for an interview, and indicating how the potential employer might contact the applicant. However, seventeens and adults do almost universally mention their high level qualification as well as describe the job accurately. Relevant personal qualities are practically never mentioned.

It appears then that Americans as young as thirteen know about nearby part-time job opportunities but that even seventeens and adults have difficulty in applying for a job when it comes to including personal material and the meat and potatoes of presenting themselves in a job-getting light.

Summary

Americans seem to possess a fair quantity of the simple skills which are generally in work.

Converting from one to another metric is reasonably entrenched by seventeen when the capacity to reverse direction is also included. Reading tables and bar graphs has a similar incidence by a similar age. Simple calculating doesn't become reasonably firmly entrenched until adult life and then only when the skill remains one which continues to be of direct use in living after leaving school.

Participating in discussions within groups is also reasonably entrenched by seventeen along with speaking and reporting.

Reading the liquid levels in a graduated container, measuring the length of a line and representing the three-dimensionality of such a model are all reasonably entrenched by thirteen and mature further by seventeen.

Seventeen-year old and adult Americans like female stewardesses, would prefer them young but don't mind their being married. Elimination of sex and all of the age discrimination resident in the policy of hiring airline stewardesses therefore doesn't seem to be an act that would meet with popular appeal in the United States.

From age thirteen on, most Americans have rudimentary interpersonal skills such as knowing how to help another and knowing what work supervisors do well and poorly.

If the skills tested in the NAEP be likened to those of literacy, these data indicate that American adults are generally literate with regard to simple numerical, communication, manual-perceptual, information-processing, interpersonal, and employment-seeking skills. Incidences of these skills largely change after thirteen or seventeen years of age. However, when the simplicity of the skills tested is gauged against the complexity of today's world, it appears that simple career skill literacy is insufficient for daily life. These data suggest to counselors that, while work remains before them in making simple career skill literacy universal, vistas lie before them in facilitating the more complex self and career development skills which they favor.

IV. Practice Effective Work Habits

A. Assume Responsibility for Own Behavior

The most basic career skill is a fully developed capacity to differentiate what one causes in one's environment and to take appropriate responsibility for that which one does cause. The NAEP data indicate that less than 50 percent of nines and thirteens take responsibility for what they cause or would take very effective steps to get an unfair rule changed. On the other hand, seventeens and adults almost universally say they would assume responsibility for an accident they caused at work which injured another. It appears then that there may be a break in the capacity to differentiate and own what one causes which occurs between thirteen and seventeen.

C. Use Initiative and Ingenuity to Fulfill Responsibilities

Nines and thirteens almost universally correctly construct a simple object following a model. Thirteens also almost universally say they would ask a teacher if they had an assignment they had to turn in tomorrow and hadn't understood what it was to be. Seventeens and adults also almost universally identify the correct of four least worthwhile questions to ask when consulted by a supervisor about getting out a new rush manufacturing order. It appears then that initiative exists fairly universally in the forms and at the ages tested in NAEP.

Summary

Responsibility for one's own behavior and its consequences might spurt between thirteen and seventeen. On the other hand, initiative progresses to almost universal proportion from nine to thirteen to seventeen in terms of imitating a simple model in construction, inquiring when stuck on an assignment, and inquiring when having to plan a more complex manufacturing task.

V. Have Positive Attitudes Toward Work

A. Recognize the Bases of Various Attitudes Toward Work

Thirteens, seventeens, and adults recognize age, race, sex, appearance, and personality/manners in about equal proportion as one of six reasons why people who want to work find it hard to get work. Also the attitude that one can like a repetitive job is reasonably entrenched among adults but not seventeens. Seventeens and adults give acceptable reasons for the liking of repetitive jobs in about equal proportions as well. It appears then that discriminatory hiring practices are known by thirteen but that understanding why persons continue in repetitive work doesn't become highly visible in the population until the adult age.

C. Seek Personal Fulfillment Through Own Achievements

Declaring only one's self as responsible for finally deciding what work one should do becomes reasonably entrenched by thirteen. Raising race horses, giving to charity, traveling, and learning new things become reasonably entrenched or almost universal at nine within the fantasy of being a millionaire.

D. Value Work in Terms of Societal Goals

Thirteens, seventeens, and adults advance steadily toward virtual universality in adult years of the belief that child labor laws should be continued. A moderate number of seventeens and adults believe that these laws should be continued to protect the well being of children, to let them gain an education unencumbered by work, and because children are not qualified for work. There is a relative absence in all three age groups of belief that the laws should be continued because parents or employers exploit children and because keeping children from working allows more adults to be employed.

Summary

Discriminatory hiring practices and justifications of child labor laws are reasonably understood by a majority of thirteens and beyond. Learning new things if one had money to do so is elected as a possibility among a majority of nines and finally deciding what work one should do by one's self becomes reasonably entrenched by thirteen but understanding why persons continue in repetitive work doesn't entrench reasonably firmly until adult years.

Overall Summary

Although Americans almost universally report themselves at work as adults and also report that their work does give them a sense of satisfaction, there is still a lot that remains to be done in preparing youths and young adults for making career decisions. Results indicate that Americans don't confer with counselors much about their career plans. Americans do have a reasonable amount of very common occupational knowledge but they lack skill in translating their interest into job possibilities. However, at least by seventeen, Americans do have an initially differentiating career planning field which includes knowledge of three or more jobs and an awareness of how to go about getting job knowledge when needed.

Chores, common activities, visits, and lessons abound among American youths. These activities can form the basis of career skill and development if focused with such purposes in mind as they occur or relatively soon afterwards. The results of the prior section suggest that such focusing is not likely to occur without deliberate attention being given to it beyond that which existed in 1973-74.

If the career skills tested in the NAEP be likened to those of literacy, the data on skills generally useful for work indicate that the American adults are generally literate with regard to simple numerical, communication, manual-perceptual, information processing, interpersonal, and employment-seeking skills.

Incidences of these skills largely change after thirteen or seventeen years of age. However, when the simplicity of these skills is gauged against the complexity of today's world, it appears that simple career skill literacy is insufficient for daily life. These data suggest to counselors that, while work still remains before them in making simple career skill literacy universal, vistas lie before them in facilitiating the more complex self and career development skills which they favor and society needs.

The highly critical career skill of differentiating and assuming responsibility for what one causes in one's environment acts like it spurts up between thirteen and seventeen. On the other hand, initiative progresses to almost universal proportion from nine to thirteen to seventeen in terms of initating a simple model in construction, inquiring when stuck on an assignment, and inquiring when having to plan a more complex manufacturing task.

Finally, discriminatory hiring practices and justification of child labor lawa are reasonably understood by a majority of thirteens and beyond. Learning new things if one had money to do so is elected as a possibility among a majority of nines and finally deciding what work one should do by one's self becomes reasonably entrenched by thirteen but understanding why persons continue in repetitive work doesn't entrench reasonably firmly until adult years as does understanding why child labor laws need continuation as well.

It appears then that the rudimentary look at early career development which the reader can take through this National Assessment of Educational Progress creates plenty of grist for a career counselor's mill. The NAEP results more than adequately testify to how little the counselor presently figures in career development as well as to how little personal responsibility and capacity for career has developed by seventeen to say nothing of the adult years from 26-35 as well. Although the American people may have a basic existential career literacy, they remain children in the groves of career development.

The Sub-Populations

The survey was administered to a national sample of each of the four age level groups as noted earlier. However, data analyses were completed not only for the total national group at each level but also for several sub-populations. These sub-populations are:

Sex

Results are presented for males and females.

Race

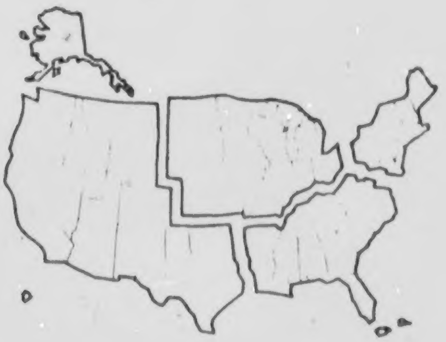
Results are reported for blacks, others and whites.

Region

The country has been divided into four regions: northeast, southeast, central and west. The states that are included in each region are shown in Figure 1.2.

FIGURE 1.2

National Assessment Geographic Regions



Parent Education

Four categories of parental education are defined by NAEP. These categories include: (1) No-HS - Those whose parents have had no high school education; (2) Some-HS - those who have at least one parent with some high school education; (3) Grad-HS - those who have at least one parent who graduated from high school; and (4) Post-HS - those who have at least one parent who has had some post high school education.

Size and Type of Community

Community types are identified both by the size of the community and by the type of employment of the majority of people in the community. These include: (1) high metro - areas in or around cities with a population greater than 200,000 where a high proportion of the residents are in professional or managerial positions; (2) low metro - areas in or around cities with a population greater than 200,000 where a high proportion of the residents are on welfare or are not regularly employed; (3) extreme rural - areas with a population under 10,000 where most of the residents are farmers or farm workers; (4) urban fringe - communities within the metropolitan area of a city with a population greater than 200,000 outside the city limits and not in the high or low metro group; (5) main big city - communities within the city limits of a city with a population over 200,000 and not included in the high or low metro groups; (6) medium city - city with population between 25,000 and 200,000; and (7) small places - communities with a population of less than 25,000 and not in the extreme rural group.

The analyses of responses generally include not only national percentages for each age group but also percentages for sub-populations that differ significantly from the complete age group. Standard errors were computed for each sub-group P-value, and a sub-group is considered to be significantly different if the obtained difference between the sub-group and the total group is at least twice as large as the estimate of the sub-group standard error. This Story of Early Career Development will often report these differences in such statements as, "Females scored higher than the age group as a whole." It is important to note, however, that when these sub-group differences are reported, the causes for the differences in achievement levels cannot be ascribed solely to membership in a particular group. Indeed, age group differences cannot be reported as independent, since each respondent is a member of five different sub-groups. Furthermore, it would be tedious to report every difference that is statistically significant, especially when a difference does not appear to be substantively important or interpretable. The authors have, therefore, exercised individual discretion in reporting sub-group differences, but for the most part, the reader can presume that the absence of a P-value in a cell of a table signifies that the value was not significant. In such cases, the P-value reported for the nation as a whole is the one which prevails, with just chance variation, in the sub-population in which the P-value is absent.

The Early Career Development Series

This publication is one in a series of publications developed by the NVGA-AMEG Commission on National Assessment with support from the National Advisory Council on Career Education and the National Assessment Project. These publications are available from: Publication Sales, American Personnel and Guidance Association, 1607 New Hampshire Avenue, N.W., Washington, D.C. 20009. Publications in this series include:

Katz, M. R.; Miller-Tiedeman, A.; Osipow, S. H.; and Tiedeman, D. V. The Cross-Sectional Story of Early Career Development as Revealed by the National Assessment of Educational Progress. Washington, D.C. National Vocational Guidance Association, 1977.

Miller, J. M., Career Development Needs of Nine-Year Olds: Implications for Career Development Programs. Washington, D.C.: National Vocational Guidance Association, 1977.

Aubrey, R. F., Career Development Needs of Thirteen-Year Olds: Implications for Career Development Programs. Washington, D.C.: National Vocational Guidance Association, 1977.

Mitchell,A.H.,Career Development Needs of Seventeen-Year Olds: Implications for Career Development Programs. Washington, D.C.: National Vocational Guidance Association, 1977.

Westbrook,B.W.,Career Development Needs of Adults: Implications for Career Development Programs. Washington, D.C.: National Vocational Guidance Association, 1977.

NAEP Series

The NAEP project has published several reports which supplement the Early Career Development Series.

A document key to fundamental understanding of NAEP's career and occupational development objectives and expectations is:

National Assessment of Educational Progress Objectives for Career and Occupational Development. Denver, CO: The Assessment, 300 Lincoln Tower, 1860 Lincoln Street, 1971.

Other supplementary documents are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Career and Occupational Development Technical Report: Exercise Volume. Career and Occupational Development Report No. 05-COD-20.

(For exercises that have been released, this volume provides a copy of the exercise, complete documentation about administration and scoring procedures and national results for each foil and/or scoring category.)

The First National Assessment of Career and Occupational Development: An Overview. Career and Occupational Development Report No. 05-COD-00.

Adult Work Skills and Knowledge: Selected Results From the First National Assessment of Career and Occupational Development. Career and Occupational Development Report No. 05-COD-01.

An Assessment of Career Development Basic Work Skills: Selected Results from the First National Assessment of Career and Occupational Development. Career and Occupational Development Report No. 05-COD-02.

Chapter 2*

PREPARE FOR MAKING CAREER DECISIONS

It is generally assumed that a major factor involved in the effective development of a career and educational plan is related to sources in the family and school which help the individual learn about personal and occupational characteristics. To that end, a number of the items in the 1973-74 assessment of career and occupational development were related to the ability of the individual to prepare for career decision making in terms of knowledge of personal characteristics as they relate to career decisions, knowledge of the characteristics and the climates of various occupations and careers, the capacity to relate personal characteristics to these occupational requirements, and to plan for career development and personal maturation and change.

.10 Know Own Characteristics Relevant to Career Decisions

(2 exercises:
101 002: 17
101 016: 17, A)

.11 Discussion of Plans for the Future (101 002: 13, 17)

Thirteens and seventeens were asked if they had talked seriously about their plans for the future. "Plans for the future" were further specified as "what you want to do, what training or education you need, etc." Respondents who initially answered "yes" to this question were additionally asked whom they had talked to and whether the person they had talked to was both older than they were and aware of their skills, abilities, goals, or interests. This part of the exercise was scored in terms of the kind of person with whom respondents had talked as well as the latter two characteristics of such persons.

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*Sections .10 and .20 of Chapter 2 were written by Samuel H. Osipow; Sections .30 and .40 by Martin R. Katz.

With respect to preparation for making career decisions, item 101 002 obtained the frequency with which seventeens talked seriously to some other individual about their career plans. This material is summarized in Table 2.11. It can be seen that with respect to seventeens in and out of

See Table 2.11, p.11

school, there was no substantial difference in the proportion who had not talked to some other individual about their plans. Although there are some minor regional differences, the major item of significance appears to be that there is an increasing trend to talk seriously about one's career plans as a function of parental education. The more education parents have, the more likely it is that their offspring will have talked with someone about their own educational plans.

Table 2.11 also indicates a sex difference in discussing plans with another individual. Females are more likely to have engaged in such conversations than males. In view of historical stereotypes away from careers for women, it is difficult to interpret the sex difference with confidence since it could simply reflect the stereotyped higher tendency of females to verbalize issues of concern to them and to seek help.

The regional difference in talking about one's plans (mentioned earlier) indicates that, in increasing order, students in the regions of the southwest, west, central, and northeast portions of the country talk with someone else about their careers in a serious manner. In particular, students from the southeast score substantially lower than those in the rest of the country. It is tempting to assume that guidance programs cause this difference, but several regional cultural differences could also be involved.

TABLE 2.11

HAVE DISCUSSED PLANS FOR THE FUTURE
EXERCISE 101 002

Response	Age Group	Nat.	Region				Sex		Race			Parental Education				
			SE	West	Cent	NE	M	F	Other	Black	White	Unk	None	Some	Grad	Post
Discussed	17 All	74	65	73	75	78	70	77	74	63	75	52	56	66	71	81
	17 In	75	69	74	77	79	72	79	76	65	77	52	60	70	73	81

Finally, Table 2,11 indicates a racial difference in that black students have talked less frequently about their plans with someone else than white students, and also less than members of other races.

Table 2.12 summarizes differences among sub-groups in the identity of the individual first consulted about career plans. The single most common persons consulted first, as might be expected, were the parents. Furthermore, there appeared to be a racial difference, with blacks substantially less likely than whites or other races to talk to parents about their career plans.

See Table 2.12, p.13

The second person most often consulted was a school related counselor. Again, there seems to be a slight sex difference with females talking more often to some school related counselor than males, and a racial difference with blacks and whites talking about equally often, but members of other races talking much less. The third most common persons consulted are peers. Few sub-group differences emerged in this analysis, except that members of non-black or non-white races seemed to talk to peers more often about their plans than other racial groups.

It is important to note that while almost 75% of the total sample talked seriously to someone about their plans, the fact is that 25% of the seventeens had not talked seriously to anyone about their plans, an alarmingly large percentage. It is worth noting that even with parents being the single most frequently consulted group (about 30% of the parents were involved) the range of people consulted about career plans is very broad.

Table 2.12 also displays the age range of the individual typically consulted about career plans. As might be expected, the person consulted tends

TABLE 2.12

FIRST PERSON WITH WHOM PLANS WERE DISCUSSED
EXERCISE 101 002

Response	Age Group	Nat.	Region				Sex		Race			Parental Education				
			SE	W	Cent	NE	M	F	Other	Black	White	Unk	None	Some	Grad	Post
Persons were:																
Parents	17 All	33					32	34	38	21	35					
School Counselor	17 All	20					17	22	12	20	20					
Other Counselor	17 All	6					10	3								
Peers	17 All	9					9	9	13	7	9					
Person Was Older	17 All	71	63	68	73	76	67	75	66	61	72	47	53	63	68	78
	17 In	73	67	70	75	76	69	76	68	62	74	47	57	66	70	79
Person Was Aware	17 All	69	60	68	72	71	65	72	70	55	71	46	55	60	65	77
Of Abilities	17 In	70	63	70	74	71	66	74	73	56	72	46	60	64	66	77

to be older than the student. There is a regional trend, lowest in the southeast, moving up in the west, central, and northeast states for the individual consulted about career plans to be older than the student. This kind of trend may reflect the availability of school related services and the relative importance of peer culture. The Table also reveals an educational trend in that the more highly educated the parents, the more likely the student reports having talked to an older person. This suggests that that older person was probably most likely to be a parent. There is also a racial difference again; whites are more likely to have talked to older persons than blacks, suggesting that the peer culture may be a differential factor, more important for black than for white students. Finally, there is a sex difference evident: females appear more likely to talk to older people about their plans than males do.

It is important for us to know the degree to which the individual consulted about career plans had some degree of sophistication, at least about the characteristics of the person consulting her or him. In this context, Table 2.12 finally summarizes the frequency with which these students reported that the individual they talked to about their plans was aware of the person's abilities. There is a regional trend again, indicating that in the southeast the individual consulted was less likely to know about the client's abilities than in other parts of the country. The trend tends to generally increase through the west, central, and northeast regions. The regional trend is a little less marked in this instance than in some of the other items mentioned earlier. There is also the now familiar sex trend, indicating that females are more likely to have talked to people who know their abilities than males. Again, there is the also familiar racial difference with blacks being less likely to have talked to someone who is knowledgeable about their abilities than whites or other racial groups. Finally, there is the educational parental trend, that is, the more educated the parent, the more likely the person consulted is aware of the abilities of the respondent.

The cumulative frequency with which respondents talked about their plans to various kinds of people is also of interest. Table 2.13 summarizes these data. The frequency with which subjects mentioned talking at least once to various people is displayed in that Table. The five categories of people most common are the school counselor, a teacher, a parent, other adults, and peers, as noted before. Parents are the most common category of individuals talked to about career plans. Almost two-thirds of the students indicate having talked to their parents about their plans, but seventeens not enrolled in school were less likely to have talked to a parent and much less likely to have talked to anyone about their plans than seventeens who are still in school. The next most common individual consulted is the counselor. There is an interesting issue here in that respondents out of school are more likely to have talked to a counselor if they live in the southeast and less likely if they live in the west, central, and northeast sections of the country, while those students currently in school tend to follow the normal regional trend we've seen before (the southeast and west are relatively low and the central and northeast regions of the country reflect greater counselor involvement). This observation might suggest something about counselor unavailability to students who are in school and students who are contemplating leaving school The seventeens not enrolled in school are more likely to have talked to a teacher than a counselor if they live in the northeast portion of the country.

See Table 2.13, p.16

TABLE 2.13

PERSONS WITH WHOM PLANS HAVE BEEN DISCUSSED AT LEAST ONCE
EXERCISE 101 002

Response	Age Group	Nat.	Region				Sex		Race			Parental Education				
			SE	W	Cent	NE	M	F	Other	Black	White	Unk	None	Some	Grad	Post
Parents	17 All	62	51	62	63	67	59	65	64	48	63	31	37	49	59	71
	17 In	64	54	64	65	68	61	67	67	50	65	32	42	53	61	72
	17 Out	34	24	36	27	51	35	34	34	30	35	12	10	34	38	52
Counselor	17 All	35	27	27	39	42	30	39	28	31	36	29	20	24	32	41
	17 In	36	28	28	41	44	31	41	28	32	37	30	23	29	33	42
	17 Out	13	18	13	10	9	17	9	21	22	10	18	0	4	23	19
Teacher	17 All	14	15	16	12	13	12	16	13	16	14					
	17 In	14	16	16	13	14	13	16	15	17	14					
	17 Out	7	3	10	7	9	6	9	0	7	8					
Other Adults	17 All	14														
	17 In	15	14	15	17	13										
	17 Out	11	7	17	8	13			18	9	11					
Peers	17 All	38	30	43	37	39	31	45	45	27	40					
	17 In	39	32	45	38	39	32	46	48	29	40					
	17 Out	25	17	22	27	34	22	29	25	14	27					

Students are more likely to have talked to counselors if their parents are highly educated, whereas no such trend exists for those seventeens out of school. Children are more likely to go to their parents about their plans if their parents are highly educated, regardless of whether they are in or out of school. In the main, the trend is for the girls to have talked more than the boys about their plans with some other person, but it is most pronounced in the peer area, where girls are much more likely to talk to their peers about their plans than boys. Blacks are the least likely to talk to anybody, including their peers, about their plans than any other racial group.

In sum, most seventeens have seriously discussed their future educational and career plans with some individual who is a person fairly likely to know about the student and to be at least an informed listener. It is clear, however, that students do not necessarily consult professionals in high frequency, and that parents play an increasingly important role especially where those parents are, themselves, well educated. The sex, regional, and racial differences that we note are modest and are suggestive of some subgroup patterns of behavior to which program developers might wish to be attentive in modifying existing programs.

Since females seem more likely than males to talk with their peers about their plans and more, in fact, than any other single sub-group, some kind of peer training might be useful to capitalize on that trend. Efforts to prime the degree to which males are willing to consult with people about their concerns would also be in order, and, in particular, since black students seem especially reticent or unlikely to consult with authority about their plans, efforts might be made, first of all, to find the reason why this is so.

One might speculate that this is related to a sense of lack of control of alternative and outcome which makes planning seem futile. Steps might therefore be taken to increase the probability that black students will begin to interact with school and parental authorities in the planning process. Such program developments might include a greater amount of time spent in group discussion and information dispensing activities for black students. Naturally, all of this speculation is based on the assumption that the process of talking seriously about your plans with another individual is likely to increase the quality of the subsequent decision the individual makes about the future.

.12 Taking Career Tests and Being Advised About the Results (101 016: 17, A)

Older respondents were asked if they had ever taken a test designed to help them decide on their career or job plans. If they answered affirmatively, respondents were then asked whether they had discussed those test results with someone who could advise them on their plans or not. The latter responses were categorized by school or university counselor or advisor, other counselor or advisor, psychologist, teacher, or military counselor or advisor.

The degree to which the student can plan for the future is also related to the quality and extent of information the individual has about personel characteristics relevant to the future. To that end, exercise 101 016 ascertained the frequency with which respondents report having taken an aptitude test at some time. Table 2.14 summarizes the data relevant to this question for seventeens, both in school and overall, as well as for adults. The results show that adults are more likely than seventeens to have taken an aptitude test.

See Table 2.14, p.19

No substantial regional differences in this observation are evident, although

TABLE 2.14

HAVE TAKEN AN APTITUDE TEST
EXERCISE 101 016

Response	Age Group	Nat.	Region				Sex		Race			Parental Education				
			SE	W	Cent	NE	M	F	Other	Black	White	Unk	None	Some	Grad	Post
Took a Test	17 All	40	30	46	46	36	40	41	30	26	43	21	36	38	38	44
	17 In	42	31	48	46	38	41	42	32	27	44	21	39	41	39	45
	Adults	62	52	68	65	61	69	54	41	42	65	25	47	54	68	77

some minor differences are obvious. For adults there is a significant sex difference in the frequency of aptitude testing, where males are more likely than females to have taken such tests. The fact that this sex difference is evident for adults, but not for the school age subjects suggests that the stereotyped notion that careers are more salient for males than females, once adult status is reached, may, in fact, continue to operate or it may reflect a change in that female high school students are tested more than their older "sisters" were.

As might be expected from social stereotypes, whites are more likely than other racial groups to have taken aptitude tests at both age levels. There is also a trend indicating that aptitude testing is more likely for offspring of highly educated parents than less well educated parents, but this trend is, again, more evident for adults than for seventeens, indicating that the schools may actually be serving as a moderator in this regard, making tests more widely available to students than heretofore. In all, it is interesting to note that about 40% of the seventeens and about 62% of the adults have, in fact, at some time taken an aptitude test. Aptitude testing is a very pervasive phenomenon in our society. One might have predicted that, in fact, the proportions would have been even larger than reported here.

Of course, simply taking aptitude tests is insufficient for good planning. What is particularly important is not that the test has been taken but that the results have been discussed with an individual knowledgeable about tests and their meaning. Table 2.5 reports a summary of the degree to which an adult and a seventeen-year-old indicate that they have had the opportunity to discuss these test results with some knowledgeable individual. As before, the adults indicate that they had engaged in such discussions in larger percentages than the seventeens and whites indicate that they had engaged in these discussions

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See Table 2.15, p.22

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in larger numbers than other races. However, it is interesting to note that only 40% of the adults indicated having engaged in this kind of discussion, when we will recall that over 60% reported having taken aptitude tests, and that only about 18% of the student sample reported such discussions when something in excess of 40% had reported taking aptitude tests. Thus, one might infer that there is a considerable waste of effort in the aptitude testing movement in that the results are not being effectively communicated to many of the individuals who take these tests. One might also surmise from the particularly large slippage among the seventeens that some schools are simply administering tests but are not doing anything with them and that the testing program itself may serve more of a cosmetic than a functional purpose.

Those individuals consulted about test results held a variety of positions. Those positions are also summarized in Table 2.5. Most commonly, the individual consulted was the school counselor. Beyond the school counselor, no single kind of individual was highly represented. The school counselor was the most common individual for the adults, but not particularly high for the seventeens. This is somewhat curious, in that one would not think that school counselors would have been particularly available to individuals in the adult sample since these individuals left school about a decade before being queried. The most parsimonious assumption to be made is that the school counselor discussed aptitude tests with this adult sample at the time that the individual was in school himself or herself. It is curious, then, that the seventeens did not report having similarly high percentages of conversations about their aptitude tests with their school counselors.

TABLE 2.15

DISCUSSION OF APTITUDE TEST RESULTS
EXERCISE 101 016

Response	Age Group	Nat.	Region				Sex		Race			Parental Education				
			SE	W	Cent	NE	M	F	Other	Black	White	Unk	None	Some	Grad	Post
Discussed Results with:																
Advisor	17 All	18							9	11	20					
	17 In	19							10	11	20					
	Adult	41							25	22	44					
School Counselor	17 All	7	6	5	7	11	7	8	1	4	8	0	1	6	9	8
	17 In	8	7	5	7	11	7	9	1	5	8	0	2	7	10	8
	Adult	17	13	20	19	17	16	19	4	9	19	2	9	12	19	29
Other Counselor	17 All	6	3	6	11	2	5	6	4	3	6	2	5	6	4	8
	17 In	6	3	7	11	2	6	6	4	2	7	2	4	6	4	8
	Adult	7	7	7	11	4	8	6	3	4	7	3	5	7	7	9
Teacher	17 All	3														
	17 In	2														
	Adult	3														

The regional differences we have noted before seem to exist in modest degree in these data as well. The Midwestern respondents seemed to talk to counselors more than other respondents. No significant sex, race, or parental educational difference is apparent in determining the nature of the individual consulted about aptitude tests, except in the adult sample. They seemed more likely to have talked with their school counselors about their aptitude tests if their own parents were somewhat more highly educated.

.20 Knowing the Characteristics and Requirements of Different Careers and Occupations

(4 exercises:
102 002: 9, 13
102 011: 13, 17, A
102 013: 13, 17, A
102 018: 17, A
102 023: 17, A
102 036: 13, 17, A)

.21 Identifying Jobs from Written Descriptions-Activities

A number of the items in the career assessment project dealt with the degree to which the respondents actually possess concrete information about the world of work. Exercise 102 002 was one such item where students were asked to identify the one of several listed occupations which fitted a description of the job's activities. The data are for nines and thirteens and the occupations involved were nurse, mail carrier, secretary, service station attendant, and newscaster. Table 2.21 summarizes these data.

See Table 2.21, p.24

It can be seen that in very high proportion, not only the thirteens, but the nines as well were able to correctly identify all the occupations. The least commonly identified occupations were secretary and service station

TABLE 2.21

IDENTIFYING A JOB FROM A WRITTEN DESCRIPTION - ACTIVITIES
EXERCISE 102 002

Category	Age Group	Nat.
Nurse	9	98
	13	96
Mailman	9	94
	13	97
Secretary	9	83
	13	98
Service Station Attendant	9	82
	13	97
Newscaster	9	85
	13	96

attendant for the nines, but these were still identified by more than 80% of the sample. Virtually all the thirteens were able to identify correctly the five occupations described.

.22 Naming the Job from a Spoken Description (202 011: 13, 17, A)

Exercise 102 011 was a similar kind of item aimed at thirteens, seventeens and adults. It required the respondents to actually name an occupation after a spoken description of it was given thereby making the task more difficult both in terms of naming rather than selecting and listening rather than reading. There was an age correlation in the degree to which respondents were able to correctly identify the occupations. There were some erratic sex differences which could be explained in terms of the sex sterotyped nature of the occupations involved. Table 2.22 summarizes these data. Adults were able to deal very well with three of the occupations, but one in particular of the five, machinist, was not handled well by that sample; only 35% of the adults got it correct. The seventeens displayed the same trend, performing almost as good as the adult sample. The thirteens followed a similar trend, but were substantially lower than the two older groups, as might be expected. It is difficult to know why the work of the machinst was as difficult for these three age groups to identify as it apparently was.

See Table 2.22, p.26

.23 Identifying Jobs from Written Descriptions-Functions (102 013: 13, 17, A)

Another question dealing with information about occupations is 102 013 in which subjects were asked to identify one of four listed occupations on the basis of a description of the occupation's functions. Again, there was an age

TABLE 2.22

NAMING JOB FROM SPOKEN DESCRIPTION
EXERCISE 102 011

Category	Age Group	Nat.	Sex	
			M	F
Baker	13	83	82	84
	17	91	91	91
	Adult	91	90	92
Machinist	13	3	5	2
	17	19	27	11
	Adult	35	42	28
Architect	13	45	43	47
	17	66	65	67
	Adult	66	66	68
Teller	13	51	54	47
	17	79	81	76
	Adult	87	88	87
Locksmith	13	65	70	60
	17	86	91	82
	Adult	91	92	90

trend, and again, as shown in Table 2.23, which summarizes the data regarding the question, the adults, the seventeens in school, and the thirteens, for the most part, had no difficulty identifying all the occupations except the

See Table 2.23, p.28

X-Ray Technician. For some reason, only 35% of the adults and 15% of the seventeens and 11% of the thirteens could identify this occupation as opposed to in excess of 85% correct identifications for most of the other occupations.

.24 Identifying, Training Periods of Jobs (102 018: 17, A)

Table 2.24 shows another aspect of knowledge about occupations. This is in reference to exercise 102 018, in which the length of training associated with different occupations was queried by listing four jobs and asking for identification of the one with the longest training period. Once again, it is obvious that there is an age variable associated with knowledge about occupational training. The older subjects tended to know more about how long it takes to become trained in the various occupations than did the younger

See Table 2.24, p.29

subjects. Overall, however, none of these age groups appear to be highly knowledgeable about training length. Approximately one-third of the adults had all the questions right and another one-third had 4 out of 5 right so that about one-third missed at least 2. The scores deteriorated significantly for the seventeens, only about 5% of whom had all 5 questions right, while 26% had 3 wrong.

TABLE 2.23

IDENTIFYING A JOB FROM A WRITTEN DESCRIPTION - FUNCTIONS
EXERCISE 102 013

Category	Age Group	Nat.
Auto Repairman	13	86
	17	90
	Adult	94
Secretary	13	96
	17	98
	Adult	97
Accountant	13	87
	17	96
	Adult	97
Chemist	13	84
	17	92
	Adult	92
X-ray Technician	13	11
	17	18
	Adult	35
Carpenter	13	72
	17	73
	Adult	76
Social Worker	13	77
	17	92
	Adult	95
Watch Repairman	13	86
	17	94
	Adult	97
Secretary	13	94
	17	96
	Adult	97

TABLE 2.24

NUMBER CORRECTLY IDENTIFYING TRAINING PERIODS OF FIVE JOBS
EXERCISE 102 018

Response	Age Group	Nat.	Race			Parental Education				
			Other	Black	White	Unk	None	Some	Grad	Post
One Correct	17 All	12	15	22	10	32	20	16	13	7
	17 In	11	16	18	10	33	17	16	12	7
	Adult	5	3	12	3	19	8	5	3	1
Two Correct	17 All	26								
	17 In	26								
	Adult	9								
Three Correct	17 All	19								
	17 In	32								
	Adult	28								
Four Correct	17 All	22								
	17 In	22								
	Adult	34								
Five Correct	17 All	5	1	2	6	0	1	4	6	6
	17 In	2	1	2	6	0	1	4	6	6
	Adult	31	13	15	34	18	20	23	33	48

In sum, 102 002, 102 011, 102 013, and 102 018 indicate that the respondents are generally familiar with some common occupations, at least in terms of activity and functional descriptions. This would suggest that the information component about the world of work as it is tapped by these items (whose validity is open to question) is not significantly inadequate.

.25 Stating Reasons for Accepting or Rejecting a Promotion (102 023: 17, A)

This exercise indicated that a person working on a job has a chance to be promoted to a better paying job in which he will supervise the work of his fellow employees. Besides the increase in salary, respondents were then asked to indicate three other reasons why he might accept the promotion. The respondent was finally asked to indicate three reasons why he might refuse the promotion.

The above paragraph is written in almost exact description of the item in order not to confuse the reader with regard to the sex of the person who was to be considered to have a chance at promotion. This exercise was written in the early 1970's before public consciousness of sexism in our language was heightened sufficiently to stamp it out. Hence the results of this exercise needs to be interpreted with this sexual discrimination of the exercise in mind.

Reasons for acceptance were categorized into the major categories of: (1) wanting a challenge; (2) responsibility or to be more useful; (3) personal satisfaction with the new job and its duties; (4) prestige; (5) status; (6) being the boss; (7) more power, open opportunities for further advancement, better working conditions, fringe benefits and other mechanical aspects; (8) better location; (9) feels deserving or capable, and (10) interpersonal relations. Reasons for not accepting the promotion were categorized into: (1) too much responsibility, feels more useful in present job; (2) doesn't like the new job; (3) would not like working conditions or mechanical aspects of new job; (4) would not want to move to a new location; (5) does not feel deserving or capable; and (6) interpersonal relations.

Table 3.25 summarizes the data generated by exercise 102 023, i.e., the main reasons why subjects might be willing to accept promotion. The most common reason expressed for accepting a promotion among both the adults and the seventeens was for increased status and prestige; the next most common reason was for the challenge of the position. This finding is somewhat surprising in that most of the existing literature dealing with advancement denegrates the importance of status and prestige and is more likely to talk about variables such as challenge of the work, interest inherent in the activity, opportunity to contribute, etc. (e.g., Osipow, 1973*). It may well be that these subjects were being more honest than their predecessors, or it may simply be that times have changed. The data do not permit authoritative interpretation.

See Table 2.25, p.32

Parallel questions concerning reasons why a promotion might be turned down were asked, and these data are summarized in Table 2.26. The main reason for refusing a promotion for both the adults and the seventeens was "too much responsibility." In other words, the subjects were saying that, in effect, they didn't want to get into a job that might be over their heads, or that

See Table 2.26, p.33

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*Osipow, S. H. Theories of career development (Second Edition). Englewood Cliffs, NJ: Prentice-Hall, 1973.

TABLE 2.25

MAIN REASONS FOR ACCEPTING A JOB PROMOTION
EXERCISE 102 023

Category	Age Group	Nat.	Sex M	 F
Challenge	17	11		
	Adult	21		
Personal Satisfaction	17	9		
	Adult	9		
Status and Prestige	17	33		
	Adult	29		
Working Conditions	17	22	26	17
	Adult	11	13	9

TABLE 2.26

MAIN REASONS FOR REJECTING A JOB PROMOTION
EXERCISE 102 023

Response Category	Age Group	Nat.	Sex M	 F	 Other	Race Black	 White
Too Much Responsibility	17	28					
	Adult	44	25	30			
Doesn't Like New Job	17	23					
	Adult	10					
Dislikes Working Conditions	17	11	14	9	9	21	10
	Adult	8					
Doesn't Deserve It	17	10	9	12	22	10	10
	Adult	15					
Interpersonal Reasons	17	17	19	16	16	7	18
	Adult	12					

might tax their capacities, or that might interfere with other life values. Almost half the adults gave that as their reason and about one-quarter of the seventeens gave that as their reason. For the seventeens, the next most common reason for declining a promotion was the possibility of not liking the new job. For adults, the reason was that they might not deserve the job. There was a sex difference in some of these responses. Females were more likely to feel concerned about accepting too much responsibility than were males in the adult sample. Among seventeens, females were less likely to refuse a job that was a promotion because they didn't like the working conditions than were males. Blacks were most likely to refuse a job they didn't like because they might dislike the working conditions than any of the other racial groups. One other interesting observation was that non-black, non-white subjects were more likely to decline a job at the seventeen-year-old level that represented a promotion because they felt they didn't deserve it than any other group.

Table 2.27 summarizes composite reasons people give for accepting promotions (question 102 023). For both adults and seventeens the most common overall reason for accepting a promotion was prestige (about 52% for the adults and 56% for the seventeens) and the next most common for the adults was challenging work (47%).

Table 2.28 summarizes the cumulative reasons why subjects would refuse a promotion. Too much responsibility was mentioned at least once by 68% of the adults and by 53% of the seventeens; 55% of the seventeens said that they might turn down a promotion because they didn't like the job.

See Tables 2.27 & 2.28, pgs.35 & 36

TABLE 2.27

REASON FOR ACCEPTING PROMOTION MENTIONED AT LEAST ONCE
EXERCISE 102 023

Response Category	Age Group	Nat.
Challenge	17	27
	Adult	46
Personal Satisfaction	17	26
	Adult	22
Prestige	17	56
	Adult	52
Advancement Opportunity	17	28
	Adult	29
Working Conditions	17	44
	Adult	28
Deserved	17	10
	Adult	14
Interpersonal Reasons	17	10
	Adult	8

TABLE 2.28

REASON FOR REJECTING PROMOTION MENTIONED AT LEAST ONCE
EXERCISE 102 023

Response Category	Age Group	Nat.
Too Much Responsibility	17	53
	Adult	68
Dislike For New Job	17	55
	Adult	35
Dislike For Working Conditions	17	34
	Adult	26
Not Capable or Deserving Of New Job	17	30
	Adult	39
Interpersonal Reasons	17	39
	Adult	32

It is hard to summarize the data regarding acceptance versus refusal of promotion. The trend in the data indicate that people are attracted to a promotion in terms of the resulting increased status and prestige, and are somewhat repulsed from it by the resulting increased responsibility and undesirable characteristics of the new work setting. Unfortunately, it is impossible to infer from these data the degree of relative intensity with which these opinions are held. In other words, it would be of interest to know whether people would be inclined to accept a promotion involving increased status and prestige even though it was associated with more responsibility and less desirable working conditions. Do we have a generation of achievment avoiders or achievement strivers?

.26 Identifying a Job's Relative Pay Position (102 036: 13, 17, A)

Respondents were given four jobs and asked to identify the one which usually pays the most money. The exercise was in five parts. In Table 2.29, breakdowns by national sample and by race for adults, seventeens in and out of school, and thirteens are shown. It can be seen that most all the subjects, whatever age they were, got at least 1 item right, but the break point started to become evident at 3 items right, where 87% of the adults got 3 items right, 73% of the seventeens got 3 items right, and 44% of the thirteens got 3 items right. Relatively few subjects got 4 items right.

See Table 2.29, p.38

Of considerable interest is the apparent racial difference in knowledge about earning power. The black subjects were significantly lower than the white subjects throughout, with the subjects of other races than black and white

TABLE 2.29

NUMBER OF JOBS IN WHICH RELATIVE PAY IDENTIFIED CORRECTLY
EXERCISE 102 036

Response Category	Age Group	Nat.	Race		
			Other	Black	White
One Correct	13	93	93	82	95
	17 All	98	98	96	98
	17 In	98	97	95	98
	17 Out	98	100	100	97
	Adult	99	96	95	99
Two Correct	13	76	63	58	80
	17 All	91	90	75	93
	17 In	91	91	76	93
	17 Out	87	79	75	90
	Adult	95	90	89	90
Three Correct	13	44	25	24	50
	17 All	73	66	50	77
	17 In	74	68	53	77
	17 Out	55	53	25	62
	Adult	88	80	73	90
Four Correct	13	18	8	8	20
	17 All	44	36	25	47
	17 In	45	39	26	48
	17 Out	24	20	12	28
	Adult	69	45	49	72

being between the two. Black subjects, particularly out of school and younger black subjects, seem to be relatively naive about the earning power of the various occupations studied. It is noticeable that there is an age trend which is to be expected. In general, thirteens seemed to have the least knowledge about earning power in various occupations.

.27 Summary

There are some spotty areas of information about the various occupations polled in this survey. The problem in interpreting these data is that we really do not know how representative these items are of the universe of items of information that students might have about the world of work. Do the occupations queried represent those most visible, and if so, then these scores are really a poor testimony to the range of knowledge that the students have about occupations. In fact, there may be reason to believe that these occuptions are fairly visible, relatively speaking, in that occupations such as plumbers, tailors, bus drivers, postal clerks, nurses, chemists, draftsman, computer programmers, engineers, dentists, druggists, X-Ray technicians, physicians, telephone operators, secretaries, store clerks, etc. are among those occupations that are most visible to the general public and which many of these respondents are likely to have seen and known personally. If this is so, then the level of knowledge is really not good, for one would expect other occupations to be less familiar. If so, this conclusion means that many young people are making occupational decisions on the basis of very limited information about training level and earning power associated with various fields of work.

.30 Relate Own Personal Characteristics to Occupational Requirements

(2 exercises:
103 002: 13, 17
103 003: A)

It is generally recognized, in most models of career and occupational development, that the pre-occupational years provide an opportunity for exploratory activities in respect to careers. Since adolescents particularly are known to be self-conscious--that is, to focus their attention on their own characteristics--an appropriate question about the career and occupational development of adolescents is, to what extent have they perceived connections between their own characteristics and the world of work?

This question has several parts. One involves the domains in which self-appraisal takes place. To what extent are adolescents aware of physique? interests? abilities? values? temperaments? Another deals with the constructs they use to describe themselves within each domain: do they use many dimensions or few? a complex or a simple structure? what independent dimensions emerge in their thinking about each domain? An analogous concern is the way they construe the world of work: how do they sort and characterize occupations? what characteristics of occupations are salient? what independent dimensions do they perceive in each domain used to describe occupations? Finally, what links do they see between the domains of self-appraisal and the domains of occupations? Are the connections they impute pertinent? valid? Do they recognize a lack of perfect isomorphism between individual and occupational domains? between individual and occupational dimensions within domains? How do they handle matching and mis-matching between the world of the individual and the world of occupations? Do they try to force a match when none is likely to exist? Do they overlook good opportunities for matching?

.31 Transform Interests into Job Assets (103 002: 13, 17)

Of the released exercises, one taps the ability of adolescents (ages 13 and 17) to see connections between the activities that currently interest them and the requirements or characteristics of some job. It asks them first to indicate in Part A whether they are "interested in a hobby, sport, game, or activity that might be useful for a job?" Part B then asks them to name one such activity. Part C asks them to name a job for which this activity might be useful. Finally, Part D asks them to state explicitly how an interest in the activity named in B would be useful for the job named in C.

Obviously, such concepts as interest in an activity and usefulness for a job are likely to be interpreted in a variety of ways. At one extreme, a case can be made that any activity has some element of usefulness for some job. On the other hand, the job linked to a given activity may be difficult to identify and the connection may be somewhat tenuous. Or the job may be discarded as unattainable. At any rate, Table 2.31 shows that those who are closer to the job market seem to apply the more rigorous test of relevance: only 63% of the seventeens answered Yes to Part A, compared to 72% of the thirteens. Of those who answered No, we cannot tell how many were not interested in any hobby, sport, game, or activity--or how many did not think that any activity they were interested in might be useful for a job. Among the seventeens whose parents had not gone to high school, or whose parent's education was unknown, there was an even greater percentage who answered No. Thus, it may be inferred that fewer activities were accessible to low socio-economic status seventeens, or they had more difficulty in seeing any job-relevance in their activities.

See Table 2.31, p.42

TABLE 2.31

HAVE A HOBBY, SPORT, GAME, OR ACTIVITY THAT MIGHT BE USEFUL FOR A JOB
EXERCISE 103 002

Response	Age Group	Nat.	Sex		Parental Education				
			M	F	Unk	None	Some	Grad	Post
Yes	13	72	82	64					
	17	63	71	55					
No	13	25	17	31					
	17	35	27	44	54	45			
Don't Know or No Response	13	3	1	5					
	17	2	2	1					

Since there is no reason to think that more activities are available at age 13 than at age 17, the age difference suggests that the thirteens have a more pervasive (albeit vague) sense of job possibilities, while the seventeens think in more constricted--and realistic--terms. For example, the boy of 13 who likes to play baseball can still fantasize about playing in the major leagues; the boy of 17 who likes to play baseball just as much but has failed to distinguish himself on his high school team may be less inclined to connect his interest to a job.

See Table 2.32, p.44

The response patterns in Part B (Table 2.32) tend to corroborate this speculation. The most popular category of activity named was Group Sports, and it showed the greatest difference between thirteens and seventeens. Almost a third of the thirteens designated a group sport (such as baseball, football, basketball), compared to 17% of the seventeens. Limiting the age comparison only to males, we find a whopping 52% of the 13-year-old boys, but only 28% of the 17-year-old boys naming a group sport. Group sports were also named more frequently by blacks in both age groups.

Sex differences are apparent throughout: in both age groups, considerably more males than females answered Yes to Part A (Table 2.31). It may be of concern that 44% of the 17-year-old females indicated they were not interested in any activity that might be useful for a job, compared to 31% of the 13-year-old females who answered No to Part A. It looks as if a large percentage of 17-year-old females don't engage in activities that appear to them to have job-relevance. This may coincide with the casual observation of many parents who opine that their 17-year-old daughters spend so much time dating that all other activities are curtailed.

TABLE 2.32

ONE HOBBY, SPORT, GAME, OR ACTIVITY OF INTEREST WHICH MIGHT BE USEFUL FOR A JOB
EXERCISE 103 002

Response Category	Age Group	Nat.	Sex M	Sex F	Race Other	Race Black	Race White
Games	13	0					
	17	0					
Group Sports	13	32	52			47	
	17	17	28			31	
Individual Sports	13	13					
	17	14					
Musical or Artistic Abilities	13	9	3	13			
	17	9	6	13			
Hobbies and Crafts	13	8					
	17	8					
School or Academic Areas	13	3					
	17	2					
Household Skills	13	1	0	2			
	17	4	0	8			
Names a Group	13	0					
	17	1					
Other Acceptable Responses	13	4					
	17	6					
No Response, I Don't Know, or Unacceptable Response	13	30					
	17	39					

As would be expected from sex stereotypes, more females than males specified activities in only two categories: Musical and Artistic Abilities and Household Skills (Table 2.32).

As might be expected, almost all who answered Yes in Part A were able to give some sort of acceptable response (naming an activity) in Part B. Table 2.33 indicates there was a sharper drop in acceptable responses to Part C, with fewer than 60% in both age groups coming up with the name of a job for which the activity might be useful. Thus, the thirteens who answered Yes in Part A and named an activity in Part B tended to falter at a greater rate than the seventeens in Part C.

See Table 2.33, p.46

The most popular response in Part C was to transfer the activity directly into the professional realm: for example, football to professional football player. Almost half of the 13-year-old males named a professional doing the same thing, as did 37% of the 17-year-old males, 22% of the 13-year-old girls, and 17% of the 17-year-old girls.

The next most popular category was designating a job that has a direct relationship or close indirect relationship with the activity. This category is not clearly distinguishable from the previous one, perhaps involving somewhat less similarity of nomenclature between activity and the job (e.g., woodworking and carpenter). More seventeens than thirteens (18% and 13%, respectively) named jobs in this category, which may suggest greater sophistication in job knowledge. Almost all of the remaining jobs involved teaching the activity named in B; this category accounted for about 11% of the responses.

TABLE 2.33

JOB FOR WHICH ACTIVITY MIGHT BE USEFUL
EXERCISE 103 002

Response Category	Age Group	Nat.	Sex M	Sex F
Professional Doing the Same Thing	13	35	48	22
	17	27	37	17
Teacher in Activity Named in B	13	11		
	17	11		
Direct Relationship or Close Indirect	13	13		
	17	18		
Other Acceptable	13	1		
	17	1		
No Response, I Don't Know, or Unacceptable Responses	13	40		
	17	43		

See Table 2.34, p.48

When responses to Parts B and C are paired in Table 2.34, it is possible to see the frequency with which each category of activity went with each category of job. The most popular pairing for the males was indeed a Group Sport activity with a professional doing the same thing: this pairing was made by 36% of the 13-year-old boys and 19% of the 17-year-old boys.

Other noteworthy pairings of activities with a professional job doing the same thing were much smaller: Individual Sport (about 5% of the males and 6% of the 13-year-old females) and Musical and Artistic activities (about 8% of the 13-year-old females and 6% of the 17-year-old females).

The job of Teacher was paired with Group Sport by only about 4% of the thirteens and 3% of the seventeens; with Individual Sport by 7% of the 13-year-old girls and 5% of the 17-year-old girls; with Musical and Artistic Activities by slightly over 3% of the girls in both age groups.

Considering the limited number of positions open to professional athletes, the high percentage of 13-year-old boys who linked sports activities to a job in professional sports (41%) suggests one or both of the following interpretations: (1) the 13-year-old boys are indeed fantasizing; (2) asking them to name an activity that "might be useful for a job" is a far cry from asking them to name an activity that "you expect to use in a job." Perhaps seventeens are less prone to fantasize and more likely to interpret the question in terms of their own job prospects.

See Table 2.35, p.49

TABLE 2.34

PERCENTAGES OF RESPONDENTS WHO NAMED A GIVEN ACTIVITY IN B AND A GIVEN JOB CATEGORY IN C

Exercise 103 002

Activity Name in B	Age Group	Professional Nat.	Professional Sex M	Professional Sex F	Teacher Nat.	Teacher Sex M	Teacher Sex F
Group Sport	13	20	36	5	4	3	5
	17	10	19	2	3	3	3
Individual Sport	13	5	5	6	4	1	7
	17	4	5	3	3	2	5
Musical or Artistic Activity	13	5	2	8	2	0	3
	17	5	4	6	2	1	3

TABLE 2.35

HOW AN INTEREST IN ACTIVITY NAMED IN B WOULD BE USEFUL TO THE JOB NAMED IN C EXERCISE 103 002

Category of Response	Age 13	Age 17
Knowledge of or Experience in Field	26	29
Tells How Interest in the Job can Help in the Job	9	11
Other Acceptable Responses	1	1
No Response, I don't Know, or Unacceptable Response	64	59

As Table 2.35 reveals, Part D was even more demanding, with 64% of the thirteens and 59% of the seventeens unable or unwilling to make an acceptable response to the pay-off question: How would an interest in the activity named be useful in the job named? About 29% of the seventeens and 26% of the thirteens stated a connection between activity and job in respect to knowledge or experience gained in the activity and required for the job. For example, "You have to know how to swim to save someone" presumably explained a connection between swimming and a job as a lifeguard.

About 11% of the seventeens and 9% of the thirteens mentioned interest as helping one to enjoy a job, e.g., "I like keeping care of horses so I'd like my job."

The data presented do not permit evaluations of the accuracy of the adolescents' perceptions of links between activity and job. The statements cited suggest, however, that the connections are real, although the descriptions are often notably vague (Examples: "Read faster and swifter." "You can learn how to put things together." "Don't get bored listening to it." "Easier to enjoy your work.")

In brief, then, it may be concluded that only a minority of thirteens and seventeens can state an "acceptable" connection between an activity that interests them and its usefulness for a job, even though "acceptability" is based on apparently generous standards. Yet a large majority indicated that they were interested in an activity that might be useful for a job, could name the activity, and (with some decrease in numbers) could name the job. Since vague answers were accepted in Part D, the sharp drop there cannot be attributed merely to verbal inadequacies. Rather, a real inability to make the connections must be inferred. If the rationale for including this objective is recognized, and if the content validity of the exercise is admitted, the inescapable conclusion is that adolescents tend to lack competence in the area of career and occupational development represented. If career and occupational development is to capitalize on adolescents' current activities and interests, a strong effort in education and guidance is required to help a majority of secondary school students perceive and understand the linkages between what they do now and the world of work.

.32 Transforming Skills into Job Assets (103 003: A)

One other released exercise deals with the sub-objective of relating personal characteristics to occupational requirements. This one focuses on the domain of skills or abilities, and was administered to adults. The stem of the exercise, "Suppose you were looking for a job," branches into Part A: "What two skills or abilities do you HAVE that would help you select the job?" and then Part B: "What two skills or abilities do you LACK that you would want to consider in selecting the job?"

Since the adults were not asked to designate the job to which the skills or abilities they named might be related, it is not possible to judge the specific validity of each response. Two kinds of analysis, however, reveal in general terms their cognizance of their job-related skills. The first concern is simply whether they can make acceptable responses in each part of the exercise. That is, have they sufficient knowledge of themselves, of the demands of the world of work, and of an appropriate vocabulary to mention skills or abilities that might be considered relevant for any job? Table 2.36 shows that only about 3% of the sample said they didn't know or made no response in the first half of Part A; 76% were able to name a skill or ability that could be accepted by the scorers; and 21% made answers that could not be accepted (for example, "Knowledge of what kind of work I want to do," which suggests that the question was ambiguous). There was some drop-out in naming a second skill or ability, as 9% said they didn't know or made no response, 69% made an acceptable response, and 22% made responses that were deemed unacceptable.

See Table 2.36, p.53

The number of acceptable responses dropped off much more sharply in Part B, in which the task was to name two skills or abilities that were lacking (Table 2.37). Less than half (48%) of the sample were able to make acceptable responses in the first instance; 38% of the responses were unacceptable; and 14% didn't know or made no response. Only 40% acceptably named a second skill or ability they lacked; 24% gave unacceptable responses; and 36% didn't know or made no response.

See Table 2.37, p.54

Even making allowance for inability to verbalize and for ambiguity in the question, it seems remarkable that about a quarter of the adults were not able to name even one skill or ability that might help them select a job, and even fewer could name two. Clearly, there would seem to be need during the school years for exercises in appraisal of job-related abilities. It is difficult to interpret the even more striking failure to name job-related abilities or skills that were lacking. Certainly the large number of unacceptable responses (Examples: "Is this really the job for me," "No plans to look") corroborates the need for more effective career education and guidance. But many of those who didn't know or made no response may simply have been confident that they did not lack the necessary skills. Whether their confidence was justified or misplaced, we cannot judge.

TABLE 2.36

PERCENTAGES OF ADULTS ABLE TO NAME TWO JOB-RELATED SKILLS THEY HAVE
EXERCISE 103 003

	Skill No. 1	Skill No. 2
Acceptable Response	76	69
Unacceptable Response	21	22
No Response, or Don't Know	3	9

TABLE 2.37

PERCENTAGES OF ADULTS ABLE TO NAME TWO JOB-RELATED SKILLS THEY LACK
EXERCISE 103 003

	Skill No. 1	Skill No. 2
Acceptable Response	48	40
Unacceptable Response	38	24
No Response or Don't Know	14	36

The other kind of analysis involves classification of the content of the skills and abilities, with particular attention to sub-group differences.

See Table 2.38, p.56-57

Table 2.38 shows that a broad range of skills and abilities were named in response to Part A. Sex differences were quite conspicuous, entirely consistent with stereotypes. About 12% of the national sample indicated they had a skill or ability that was classified as Professional or Technical (for example, teaching experience, computer programming). More males than females named at least one such ability (about 16% of the males and 9% of the females). The tendency to name at least one professional or technical skill also varied with parental education: from about 7% of those whose parents had had no high school to about 19% of those whose parents had continued education beyond high school. The popularity of this response category showed great variation with size and type of community: the range went from only 4% in low metro areas naming at least one professional-technical skill to 26% in high metro areas.

Managerial and Supervisory skills were named more frequently by males (9%) than by females (2%), as were responses that fell in the Business, Finance, and Sales category (9% males, 6% females), the Manual, Mechanical, and Crafts category (22% males, 2% females), and the Labor or Operative category (14% males, 5% females). This last category also appeared relatively popular in the southeast (14%), among people whose parents had had no high school education (15%), and in extreme rural communities (16%).

A clerical or Office skill was named at least once by 23% of the entire sample, with a big sex difference: 4% of the males and 41% of the females.

TABLE 2.38

PERCENTAGES OF ADULTS GIVING AT LEAST ONE RESPONSE IN EACH SKILLS/ABILITIES CATEGORY
EXERCISE 103 003

Response Category	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
		SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Professional or Technical	12					16	9					7	8		19	4	7	10				26
Art or Music	2																					
Health Service	4					1	6		7	3												
Managerial or Supervisory	5					9	2															
Clerical or Office	23					4	41															
Business, Finance, Sales	7					9	6															
Manual, Mech., Craftsman	12					22	2															
Labor or Operative	10	14				14	5					15					16					
Service	6					3	9					9										
Handicrafts	1																					
Other Skills	1																					
Interpersonal Relations	11										5	6		13	15							
Intellectual Abilities	9											5			12							
Personal Qualities	11																					

Table 2.38 (cont'd)

Response Category	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
		SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Physical Abilities	3																					
School or Academic	6																					
Other General Abilities	1																					

A sex difference is also apparent in the proportion of males and females naming at least one skill in the Health Service category: 1% of the males and 6% of the females. A skill in this category was named more frequently by blacks than by whites (7% and 3%, respectively).

Females were more likely than males to name at least one skill in the Service category, such as waitress, housework, and the like (9% females, 3% males). About 9% of those whose parents had had no high school education also named a skill in this category.

Aside from the specific job skill categories indicated above, a number of more general abilities were named. Among the classifications are Interpersonal Relations, named at least once by 11% (varying directly with parental education); Intellectual Abilities, named by 9% (also varying, as would be expected, with parental education); and Personal Qualities (for example, adaptability), mentioned by 11%.

In all, as Table 2.39 shows, about 50% of the sample named only specific skills or abilities in Part A, 13% named one specific and one general ability, and about 20% named only general abilities. In Part B, only specific skills were named by 27%, one specific and one general by 8%, and only general by 21%. Thus, we see that the drop-off in acceptable responses between Part A and Part B can be accounted for largely as a decrease in specific responses. More people were able to specify what skills they had than what skills they lacked.

See Table 2.39, p.59

.33 Summary

Both released exercises that deal with the sub-objective, Relate Own Personal Characteristics to Occupational Requirements, reveal tendencies toward vagueness in the two domains tapped: interests and abilities.

TABLE 2.39

SPECIFICITY OF SKILLS AND ABILITIES NAMED IN PARTS A AND B
EXERCISE 103 003

	Part A	Part B
Percent Naming Only Specific Skills/Abilities	50	27
Percent Naming Specific and General Skills/Abilities	13	8
Percent Naming Only General Skills/Abilities	20	21
Other	17	44

In the interest domain, adolescents tended to look for holistic compatibility between activities of interest and jobs--for example, football and professional football player. There was less tendency to extract a quality or characteristic of interest from an activity and find its analogue in an occupation. This lack seems to suggest an impoverishment of useful concepts in the interest domain, insufficient mastery of the major dimensions which have emerged consistently over many years in thousands of research studies.

In the abilities domain, similarly, many of the adults could name relatively few dimensions. Yet here again there has been a considerable consensus emerging from prolonged research on a number of dimensions of job-related abilities.

Materials and procedures for capitalizing on the solid body of research in abilities and interests, as well as in values, are available. They have been field-tested in schools and evaluated, and have been found to make a difference in the competencies of self-appraisal and of relating self-appraisals to occupational characteristics. Yet these materials and procedures have not been universally, or even widely, adopted by schools. Why not? It is clear that the need for them exists. But like many other successful innovations in education, there has been a failure in dissemination and use. The career and occupational development exercises, sparse and sketchy as they may be, do education a service by illustrating the effects of that failure.

.40 Plan for Career Development or Change

(5 exercises:
104 003: 13, 17
104 009: 13, 17, A
104 011: 13, 17
104 015: 13, 17
104 016: 17, A

This sub-objective obviously overlaps the preceding one, and it is difficult to distinguish clearly whether some of the exercises belong in one or the other. At any rate, five released exercises are earmarked for this sub-objective. Like their two immediate predecessors, they focus on connections between knowledge or experience on the one hand and occupations or jobs on the other. The general import of the questions is whether people can identify elements from their previous and present experience that are relevant to occupations or jobs. Can they designate appropriate jobs? Do they understand the nature of the links between present and future, between school and work, between individual characteristics and job requirements? What constructs do they use in their perceptions and evaluations of occupations? Can they describe appropriate actions they might take to advance their career development?

.41 Transforming Subjects into Job Assets (104 003: 13, 17)

This exercise is very similar to 103 002; in effect, it substitutes school subjects for "hobby, sport, game or activity." Part A asks, "Is there ONE subject you have taken in school that taught you something that might be useful for a job?" Part B asks, "What subject was it?" and Part C, "For what job might this be useful?" Table 2.401 shows that about 91% of the seventeens and 89% of the thirteens answered Yes to A, with the central region of the country slightly higher and the northeast slightly lower in both cases. Perhaps in "Middle America" more than in the northeast school subjects are seen as useful for a job.

See Table 2.401, p.63

The high proportion of acceptable responses classified in Table 2.402 shows that virtually all of those who said Yes in Part A were able to name a subject of them named subjects in this category, compared to 17% of the seventeens. Among the seventeens, Business subjects were the most popular, named by 27% compared to only 3% of the thirteens. As might be expected, sex differences are quite striking: among the seventeens, 45% of the females and only 8% of the males named Business subjects; 21% of the males and 13% of the females named Math subjects; 18% of the males and 3% of the females named Vocational subjects; 12% of the males and only 0.2% of the females named Industrial Arts. Aside from Business, the only categories more popular with females than with males were English (9% of the females and 5% of the males) and Home Economics (4% of the females and 1% of the males.) A similar pattern of sex differences characterized the thirteens, except in Math. One explanation of this lack of sex difference in Math may be that the thirteens had not yet encountered much opportunity for differentiated curricula; perhaps very few of them had taken Business and Vocational subjects and they were consequently limited to the core subjects, Math, English, Science, and Social Science, all of which were named more frequently by thirteens than by seventeens.

See Table 2.402, p.64

In Part C, jobs were named for which the subject might be useful. Classification of these responses in Table 2.403 shows 14% of the seventeens and 9% of the thirteens naming a Professional in the field listed in B; about twice as many male

TABLE 2.401

HAVE ONE SCHOOL SUBJECT THAT MIGHT BE USEFUL FOR A JOB
EXERCISE 104 003

Response	Age Group	Nat.	Region Central	NE
Yes	13	89	93	86
	17	91	94	87
No	13	9	5	12
	17	8	5	11
Don't Know	13	2		
	17	1		

TABLE 2.402

SUBJECTS CONSIDERED TO BE USEFUL FOR A JOB
EXERCISE 104 003

Subject Name	Age Group	Nat.	Sex M	Sex F
Math	13	45		
	17	17	21	13
Science	13	9		
	17	9		
English	13	11	7	14
	17	7	5	9
Art/Music/Drama/Speech	13	2		
	17	4		
Social Science	13	6		
	17	4		
Phys. Ed./Health Ed.	13	2		
	17	1		
Foreign Language	13	2		
	17	1		
Industrial Arts	13	4	8	0.3
	17	6	12	0.2
Business Education	13	3	1	4
	17	27	8	45
Home Economics	13	2	0.1	4
	17	2	1	4
Vocational Education	13	2	3	1
	17	11	18	3
Other Acceptable Responses	13	1		
	17	3		
Unacceptable Responses	13	11		
	17	8		

as female responses fell into this category. Teacher in the field named in B was chosen by 5% of the seventeens and 10% of the thirteens; this age difference was attributable to the much greater popularity of Teacher among the 13-year-old females (14%). Jobs involving a direct relationship with the subject were named by 48% of the seventeens; 58% of the females' responses and 39% of the males' fell into this category. Among the thirteens, however, 28% named jobs in this category, and the sex difference went the other way: 32% of the males and 25% of the females. About 13% of the seventeens and 29% of the thirteens named jobs that had an indirect relationship to the subject. It would appear, then, that seventeens were more sophisticated about the connections between school subjects and jobs. They were much more likely than thirteens to perceive direct relationships between a school subject and a job.

See Table 2.403, p.66

This interpretation (not a surprising one) is borne out by the modal pairing of response categories in B and C, shown in Table 2.404. The most frequent pairing of subject and job classification for the thirteens was represented by the 20% who named Math subjects and jobs that had an indirect relationship to Math. The most frequent pairing for the seventeens was represented by the 21% who named Business subjects and a job that was directly related to such subjects. Thus, the thirteens tended to perceive vague connections, the seventeens to perceive more specific connections between school subjects and jobs.

See Table 2.404, p.67

TABLE 2.403

JOB FOR WHICH SUBJECT NAMED IN B MIGHT BE USEFUL
EXERCISE 104 003

Category of Job	Age	Nat.	Sex	
			M	F
Professional in Field Named in B	13	9	13	6
	17	14	19	10
Teacher of Subject Named in B	13	10	5	14
	17	5		
Direct Relationship with Subject in B	13	28	32	25
	17	48	39	58
Indirect Relationship with Subject in B	13	29		
	17	13		
Unacceptable Responses	13	11		
	17	10		
Don't Know	13	2		
	17	1		
No Response	13	11		
	17	9		

TABLE 2.404

PAIRING OF RESPONSE CATEGORIES IN PARTS B & C
EXERCISE 104 003

Subject Named in B	Age	Type of Job Named in C			
		Professional	Teacher	Direct Rel. to B	Indirect Rel. to B
Math	13	1	4	14	20
	17	0.2	1	8	5
Science	13	4	1	3	1
	17	1	0.3	5	1
English	13	0.4	3	1	4
	17	0.4	1	1	2
Indust. Arts	13	1	0	2	1
	17	2	0	4	0.3
Business Ed.	13	0.1	0	2	0.3
	17	3	0.1	21	1
Voc. Ed.	13	0.4	0	1	1
	17	4	0.1	5	1

.42 Things to Consider in Choosing a Job (104 009: 13, 17, A)

This exercise asked the respondents to "list ten different things that a person should think about in choosing a job or career." It is an effort to discover the domains and constructs that people are aware of and can express. The results can be analyzed in terms of ability to make acceptable responses; the scope and range of the domains; the vagueness or specificity of the constructs; and the relative popularity of the various domains or constructs.

When people are asked to list ten things, it must be expected that there will be a steep decline in the number of acceptable responses about half way down the list. It must also be expected that adults and seventeens would outlast thirteens in a task of this sort. Both expectations were realized. As Table 2.405 shows, about 93% of the adults and the seventeens and 85% of the thirteens were able to enter the first item on the list acceptably. By the time the fifth item was reached, about 81% of the adults and seventeens but only 58% of the thirteens made acceptable responses. With the sixth item, the line of descent steepened, with about 71% of the adults and seventeens and 46% of the thirteens responding acceptably. Making it to the tenth item were 37% of the adults, 26% of the seventeens, and only 10% of the thirteens. So there is an age difference, at least in fluency necessary to generate a list of this sort.

See Tables 2.405 & 2.406, p.69, 70-71

The range of constructs used and the popularity of each are indicated in Table 2.406. Most of the people in every age group thought of mentioning money, benefits, or working conditions at least once: grouped under the heading, Working Conditions, Mechanical Aspects of Job, such responses were made by about 90% of the adults and seventeens (but only 69% of the seventeens who were out of school) and 82% of the thirteens. Also enjoying high popularity were responses classified

TABLE 2.405

PERCENTAGE GIVING ACCEPTABLE RESPONSES ON EACH OF 10 ITEMS EXERCISE 104 009

Item No.	13	17	Adult
1	85	93	93
2	80	91	91
3	77	88	88
4	70	86	85
5	58	81	80
6	46	71	70
7	33	60	62
8	21	47	52
9	15	35	44
10	10	26	37

TABLE 2.406

PERCENTAGE GIVING AT LEAST ONE RESPONSE IN EACH CATEGORY
EXERCISE 104 009

Category	Age	Nat.	Race		Sex	
			Black	White	M	F
Responsibility, Challenge Usefulness, Self-improvement	13	10	5	10		
	17	15	11			
	17 in	15				
	17 out	18				
	Adult	19	12	20		
Personal Satisfaction, Interest, Desires, or Goals	13	66	35	71		
	17	84	63	87		
	17 in	85	63	88		
	17 out	71				
	Adult	71	54	73		
Prestige, Status, Opportunity for Advancement	13	9	4	9		
	17	28	14	30		
	17 in	28	15	31		
	17 out	16				
	Adult	50	31	53		
Availability of the Job	13	9	13	10		
	17	26	13	28		
	17 in	27	15	29		
	17 out	10				
	Adult	39	22	42		
Duties	13	15				
	17	13				
	17 in	13				
	17 out	7				
	Adult	12				
Working Conditions, Mechanical Aspects of the Job	13	82	59	86		
	17	90	70	93		
	17 in	91	72	94		
	17 out	69				
	Adult	90	74	93		
Job Qualifications	13	35	26	37		
	17	51	40	53		
	17 in	52	42	54		
	17 out	33				
	Adult	45	28	47		
Personal Abilities or Constraints	13	42	26	45	33	50
	17	49			40	58
	17 in	49			40	59
	17 out	43			-	-
	Adult	42	32	43	37	46

Table 2.406 (con't)

Category	Age	Nat.	Race Black	 White	Sex M	 F
Interpersonal Relations	13	24	11	27		
	17	30	16	32		
	17 in	31	18	33		
	17 out	22				
	Adult	26	17	27		
Possible Discrimination	13	2				
	17	2				
	17 in	2				
	17 out	1				
	Adult	2				
Ethical Considerations	13	2				
	17	3	1			
	17 in	3				
	17 out	4				
	Adult	3	1	4		

as Personal Satisfaction, Interest, Desires or Goals, made at least once by 71% of the adults, 84% of the seventeens (but only 71% of the seventeens who were out of school), and 66% of the thirteens. Responses that involved education, training, or other requirements (categorized as Job Qualifications) were made at least once by 45% of the adults, 51% of the seventeens, and 35% of the thirteens. Responses having to do with Prestige, Status, Opportunity for Advancement were made at least once by 50% of the adults, 28% of the seventeens, and only 9% of the thirteens. Personal Abilities or Constraints, including references to health and aptitude, were mentioned at least once by 42% of the adults, 49% of the seventeens, and 42% of the thirteens, with distinctly higher percentages of females than of males in each age group. Concerns with outlook and security, under the heading of Availability of the Job, were expressed at least once by 39% of the adults, 26% of the seventeens, and 9% of the thirteens, suggesting that this concern (like some but not all of the others) varies directly with proximity to the job market. Interpersonal Relations, having to do with congenial co-workers, drew mention from 26% of the adults, 30% of the seventeens, and 24% of the thirteens. The rubric Responsibility, Challenge, Usefulness, Self-Improvement picked up at least one item (ranging from "How hard is the work?" to "Will it help other people?") from 19% of the adults, 15% of the seventeens, 10% of the thirteens. Interestingly enough, it appealed somewhat more often to the seventeens who were out of school than in, attracting at least one such response from 18% of them. The only other category picking up a substantial number of references was Duties, with 12% of the adults, 13% of the seventeens, and 15% of the thirteens making some kind of mention of the kind of work involved in the job. Categories for other responses included Ethical Considerations ("Is the job legal?"), mentioned by about 2% to 3% of the total sample, and Possible Discrimination (queries about age, sex, religion, race), mentioned by less than 2% of the sample. This last category showed no significant difference in the frequencies for blacks and whites, although in all the other categories (with the sole exception of Availability of the Job among thirteens) the frequencies were very much lower for blacks.

If the rubrics are accepted as they stand, substantial numbers of respondents named at least one "thing" that could be classified under one of eight categories. Some might dispute putting references to salary under Working Conditions, preferring to break such responses out under a separate category. At any rate, if the full content incorporated under each rubric is recognized, it seems clear that the total scope of the domain is quite comprehensive. Each of the eight domains attracted a fair number of mentions at least once. No important domain appears to have been totally neglected.

Examination of the illustrative responses under each rubric, however, does raise some doubts on the issue of specificity. Perhaps the sample responses listed under the rubric Personal Satisfaction, Interest, Desires or Goals will serve to highlight the problem. All of them are completely general: "How well you like the job," "What he will get satisfaction from," "What he is interested in," "His or her happiness," "Choose something you like," and so on. In no instance did a sample response specify any dimension of interest or satisfaction. Clearly, the question was not designed to elicit a greater degree of specification, and there can be no quarrel with scoring these examples as acceptable responses. Yet responses under the rubric Working Conditions appear to be considerably more specific: for example, salary, hours, dangers, location, insurance, equipment, and so on. Similarly, sample items under Job Qualifications and the other rubrics included at least some specific responses. People could speak in specific terms about such requirements as schooling, work experience, training, tests, and the like. Yet Satisfaction seems to have been just one big blob in their minds. That rubric is virtually a literal rendering of the responses, which were already abstract, rather than an abstraction from a number of specific items.

See Table 2.407, p.75

These inferences from the content of sample responses are corroborated by one of the analyses. Table 2.407 plots the number of times a response in each category was made against percentage of people in each age group. As indicated above, Personal Satisfaction was mentioned at least once by large numbers. But there was a very sharp drop in the percentages mentioning some other aspect of personal satisfaction. For example, among adults, as we have seen, a personal satisfaction was mentioned once by 71%; but twice or more by 21%, three times by only 4%, and by virtually no one more often than that. Compare with this the percentages of adults making multiple references to things that were classified under Working Conditions: once, 90%; two or more, 75%; three or more 56%; four or more, 36%; five or more 20%; 6 or more, 10%; seven or more, 4%. Thus, we see that people tended to name a number of aspects of Working Conditions, but few came up with more than two aspects of Personal Satisfaction.

It is also interesting to note (from another analysis, not shown here) that responses classified under Personal Satisfication were made more frequently than any other kind of response as the first item on the list, but tended to drop off sharply in frequency as the head-scratching went on. Responses classified under Working Conditions, however, while second most popular as the first item on the list, showed up with even greater frequency as the second, third, fourth, and fifth, and maintained a relatively high level of frequency throughout the length of the list.

TABLE 2.407

PERCENTAGE NAMING CERTAIN CATEGORIES ONE OR MORE TIMES
EXERCISE 104 009

Category	Number of Times Mentioned	13	17	17 in	17 out	Adult
Personal Satisfaction	1 or more	66	84	87	71	71
	2 or more	16	30	30	34	21
	3 or more	3	6	6	4	4
	4 or more	0.4	1	1	1	1
Working Conditions	1 or more	82	89	91	69	90
	2 or more	61	69	72	39	75
	3 or more	38	49	51	25	56
	4 or more	21	31	32	14	36
	5 or more	12	16	17	6	20
	6 or more	6	7	8	3	10
	7 or more	2	3	3	-	4
	8 or more	1	1	1	-	1
	9 or more	-	0.2	0.2	-	0.4
Prestige, Status, Opportunity for Advancement	1 or more	9	28	28	16	50
	2 or more	0.5	3	3	1	5
	3 or more	0.1	0.1	0.1	0.3	0.4
Job Qualifications	1 or more	35	51	53	33	45
	2 or more	8	17	18	6	14
	3 or more	1	5	5	4	3
	4 or more	0.3	1	1	1	1
	5 or more	-	0.3	-	-	0.3
Personal Constraints	1 or more	42	49	49	43	42
	2 or more	12	18	18	13	16
	3 or more	3	6	6	1	5
	4 or more	1	2	2	0.3	2
	5 or more	0.1	1	1	-	1
	6 or more	0	0.3	0.3	-	0.1

Typically, then, some global or holistic concept of happiness, satisfaction, interest, came to mind right off the bat; it was promptly mentioned and that subject was exhausted. Not very many could have mentioned, for example, both interests and values. Yet respondents were able to think of many specific responses that had to do with working conditions. This finding may point to the need for more information and enlightenment on the structure of satisfaction so that adolescents can perceive some of the specific dimensions in this domain. Exercises in "values clarification" have become increasingly popular in schools. Again, procedures and materials for helping students become aware of their own values and of the opportunities for differentiated satisfactions in various occupations have been tried out and evaluated. The problem is to get them used widely in well-planned programs of career development.

.43 Activities for Investigating a Job of Interest (104 011: 13, 17)

The previous exercise asked for a list of things to think about in choosing a job or career. This exercise asks how the individual would get information about a job, presumably to see how well it stacks up against such a list of criteria. It reads, "Suppose you want to find out more about a job you are interested in. What are five things you could do NOW to find out more about the job before you take the job or begin job training?"

See Table 2.408, p.77

Most of the sample could not think of five responses for this exercise: over 60% in both age groups left the line for the fifth response blank.

See Table 2.409, p.78-79

TABLE 2.408

PERCENTAGE GIVING ACCEPTABLE/UNACCEPTABLE RESPONSES ON EACH ATTEMPT EXERCISE 104 011

Response Category	Age	Attempt Number 1	2	3	4	5
Acceptable Response	13	55	50	36	19	4
	17	74	69	57	34	17
Unacceptable Response	13	43	43	41	33	30
	17	25	28	29	26	20
Don't Know	13	1	1	2	4	5
	17	0.5	1	1	2	3
No Response	13	1	6	21	44	61
	17	0.5	2	13	38	60

TABLE 2.409

THINGS CAN DO NOW TO FIND OUT MORE ABOUT A JOB OF INTEREST
EXERCISE 104 011

Activity	Age Group	Nat.	Race		Parental Education					Size and Type of Community						
			Black	White	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Counselor, Advisor, Guidance Office	13	5	0.1	6												
	17 all	28	14	30												
	17 in	30	15	32												
	17 out	9														
Talk to or Observe People in Field	13	48	29	51	31	36	40	52	54	39						55
	17 all	68	43	73	51	56	62		75	54						78
	17 in	70	43	74	55				75	56						79
	17 out	57														
Obtaining and/or Reading Material	13	37	18	41	24	22			46							
	17 all	44	31	46		27	38		50							
	17 in	45	31	47		29			50							
	17 out	35														
Get Info from School, College, or Professional Association	13	2														
	17 all	4														
	17 in	4														
	17 out	6														
Talk to Teacher	13	3														
	17 all	2														
	17 in	2														
	17 out	0.3														
Contact Employer	13	28	19	30	22	21			31							
	17 all	42	27	45	32				46							
	17 in	43	27	45	32			39	46							
	17 out	36														
Other Acceptable Responses	13	18														
	17 all	22														
	17 in	23														
	17 out	16														

Table 2.409 (con't)

Activity	Age Group	Nat.	Race		Parental Education					Size and Type of Community						
			Black	White	Unkn	None	Wome	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Garbage	13	7														
	17 all	4														
	17 in	4														
	17 out	2														
Unacceptable Response	13	30														
	17 all	18														
	17 in	18														
	17 out	22														
Get Job or Training	13	13														
	17 all	6														
	17 in	6														
	17 out	7														
Misinterprets Question	13	42														
	17 all	33														
	17 in	32														
	17 out	46														
Duplicate Response	13	2														
	17 all	1														
	17 in	1														
	17 out	1														
Don't Know	13	5														
	17 all	3														
	17 in	3														
	17 out	11														
No Response	13	60														
	17 all	60														
	17 in	61														
	17 out	40														

A high proportion of the responses that were made indicate a misinterpretation of the question. The sample misinterpretations read, for the most part, like a continuation of responses to the previous exercise, particularly those that were classified as Working Conditions: money, hours, benefits, and the like. As Table 2.409 shows, about 42% of the thirteens and 33% of the seventeens gave at least one response that was placed in this Misinterprets Question category.

In addition, about 13% of the thirteens and 6% of the seventeens said Get Job or Training, despite the wording of the question: ...do NOW...before you take the job or begin job training."

The responses made most frequently at least once were those classified as Talk to or Observe People in the Field. About 48% of the thirteens and about 68% of the seventeens said they would do this, although it is interesting that only 57% of the seventeens out of school (compared with 70% of those in school) mentioned it. It is also interesting that the frequency of this response varied with race (fewer blacks than whites), parental education, and size and type of community (fewer in low metro communities, more in high metro).

Response rates in two other categories ran quite strong. Obtaining and/or Reading Material was mentioned at least once by 37% of the thirteens and 44% of the seventeens. Again, differences appeared according to race and parental education. Contact Employer was mentioned at least once by 28% of the thirteens and 42% of the seventeens, with similar differences between sub-groupings by race and parental education.

It is not surprising that only 5% of the thirteens, but 28% of the seventeens, mentioned going to a Counselor, Advisor, Guidance Office; such resources are more commonly available to the older students. Of course, seventeens who were out of school were less likely to make this response than those in school (9% and 30%, respectively). At both age levels, blacks were much less likely than whites to [illegible] on guidance services.

Small numbers mentioned Talk to Teacher (3% of the thirteens, 2% of the seventeens) and Get Information from School, College, or Professional Association (2% of the thirteens, 4% of the seventeens).

It is particularly interesting to note that no category was required for Talk to Parents. In other studies, when this category has been included in multiple-choice questions about resources used by high school students for career decision-making, it has been the most popular option. Since students did not mention parents in this exercise, they evidently regard parents as sources of advice but not information.

In summary, there is little comfort in looking at the data on adolescents' ability to name sources of information about a job. While collectively they mentioned a good array of actions, only one--Talk to or Observe People in the Field--was named by a majority of the seventeens and none by a majority of thirteens. That less than half would Obtain and/or Read Materials comes as no surprise to those who have seen scant use made of most occupational libraries and files. It is discouraging also to note how few would use the guidance office or counselor as a source of information.

Perhaps the growing popularity of computer-based guidance and information systems will help fill the gap. Students do appear to use them with enthusiasm and to remember the information obtained from them.

.44 Future Job Plans (104 015: 13, 17)

This exercise covers a lot of territory. Indicating that homemaking or full-time community or religious work is counted as a job, Part A asks, "Have you ever thought about the kind of job you would like to have in the future?" Part B asks, "What jobs have you considered?" (with spaces for five write-ins), and Part C asks, "Which ONE of these jobs are you most interested in doing?" The respondent is then instructed in Part D to "Name three things about this job that you would like," and in Part E to "Name three things about this job that you might NOT like." Part F reads, "Name three skills or abilities which you must have in order to do that job," and Part G winds up the exercise with, "Name three different jobs that you could get into using the SAME skills or abilities."

There has been no attempt to score the accuracy of the respondents' perceptions, as might be revealed in Parts F and G, of the jobs that interest them. So we cannot judge the reasonableness of their responses, but rather the ability to respond and the scope of the responses.

See Table 2.410, p.83

A very gross index of stage in career planning can be derived from Part A. As Table 2.410 shows, about 93% of the seventeens said they had thought about the kind of job they would like to have in the future, with differences according to race and parental education (smaller percentages for blacks and for "unknown" or no high school attendance by parents). The thirteens were somewhat less likely to have thought about future jobs, with 86% answering Yes. Again there was a difference according to parental education, and also a sex difference: 82% of the male thirteens and 89% of the females said Yes. The 13% of the 13-year-old boys who said they had never thought about the kind of job they would like to have in the future are enough to show that "future occupation" is less than a universal "preoccupation" among early adolescent males.

See Table 2.411, p.84

TABLE 2.410

PERCENTAGE THINKING ABOUT THE KIND OF FUTURE JOB
EXERCISE 104 015

Response	Age	Nat.	Sex		Race		Parental Education				
			M	F	Black	White	Unk	None	Some	Grad	Post
Yes	13	86	82	89			78				88
	17	93			89	94	69	86			96
No	13	13									
	17	6									
Don't Know	13	1									
	17	1									

TABLE 2.411

PERCENTAGE ACCEPTABLY NAMING UP TO 5 JOBS THEY HAVE CONSIDERED
EXERCISE 104 015

Job No.	Age Group 13	Age Group 17
1	83	86
2	71	78
3	49	56
4	28	29
5	17	15

In Part B, as Table 2.411 shows, the percentage of each age group dropped off sharply from the first job named to the fifth. About 86% of the seventeens and 83% of the thirteens named one job, but only 15% and 17% respectively, named five.

See Table 2.412, p.86-87

Table 2.412 indicates that the occupations named most frequently in Part C ("most interested in") were, by far, those in the Professional category: professional occupations were named by 44% of the seventeens and 53% of the thirteens. In the latter age group, more females (60%) than males (44%) named professional occupations. In both age groups, professional occupations were chosen more frequently by those whose parents' education had gone beyond high school and those from high metropolitan communities.

After Professional, the next highest category was Clerical: 9% of the seventeens and 5% of the thirteens. These responses, however, were almost entirely attributable to the females in both age groups: 17% of the seventeens and 10% of the thirteens; males showed virtually no interest in clerical occupations.

Service Workers of various kinds were also designated almost exclusively by females: 8% of the female seventeens and 9% of the female thirteens.

The sex difference went in the other direction for the category of Craftsman, which drew 8% of the seventeens and 5% of the thirteens: 16% of the male seventeens and 11% of the male thirteens--and virtually no females--named occupations in this category.

Other categories received only a scattering of votes.

TABLE 2.412

OCCUPATIONS IN WHICH MOST INTERESTED
EXERCISE 104 015

Occupational Categories	Age	Nat.	Sex		Parental Education				Size and Type Community
			M	F	None	Some	Grad	Post	HIMT
Apprentice	13	0							
	17	0							
Clerical	13	5	0.1	10					
	17	9	0.2	17					
Craftsman	13	5	11	0					
	17	8	16	0.3					
Farmer, Farm Manager	13	1							
	17	1							
Farm Laborer, Foreman	13	0.2							
	17	0.2							
Homemaker	13	2							
	17	2							
Laborer	13	0.4							
	17	0.5							
Manager, Administrator	13	2							
	17	3							
Military	13	1							
	17	2							
Operative	13	3							
	17	3							
Professional	13	53	44	60		45	47	60	59
	17	44			33	31	33	57	61
Proprietor or Owner	13	1							
	17	1							
Protective Service	13	3							
	17	3							
Sales	13	1							
	17	1							
Service	13	6	1	9					
	17	5	1	8					
Technical	13	2							
	17	5							
Student	13	0							
	17	0							

Table 2.412 (cont'd)

Occupational Categories	Age	Nat.	Sex		Parental Education				Size and Type Community
			M	F	None	Some	Grad	Post	HIMT
Other Acceptable Response	13	2							
	17	4							
Don't Know	13	1							
	17	2							
"None"	13	0							
	17	1							
No Response	13	14							
	17	7							

See Table 2.413, p.89-91

As for specific occupations (rather than categories), Table 2.413 shows that the highest tally in Part C was received by Teacher: 7% of the seventeens and 10% of the thirteens. After Teacher come Doctor (5% of the seventeens and 10% of the thirteens) and Registered Nurse (7% of the seventeens and 9% of the thirteens).

The age comparisons suggest that seventeens tend to be more realistic than thirteens about the limits on opportunities in the professions (and are more inclined to choose clerical and crafts occupations). This tendency may result in part from greater knowledge about requirements, in part from experiences in secondary school that have led to a sense of inability or reduced desire to meet the requirements.

See Table 2.414, p.92

Asked in Part D to "Name three things about this job that you would like," 84% of the seventeens and 78% of the thirteens (Table 2.414) were able to make an acceptable response for the first "thing," and 78% of the seventeens and 70% of the thirteens named a second acceptable "thing," but coming up with the third "thing" was very difficult: only 64% of the seventeens and 53% of the thirteens were able to name a third "thing" that they liked about the job that interested them most.

See Table 2.415, p.93

TABLE 2.413

SPECIFIC OCCUPATIONS IN WHICH MOST INTERESTED EXERCISE 104 015

Category	Age Group 13	17
Professional and Technical		
101 = Artist, Entertainer, Musician, Photographer	3	4
102 = Writer, Journalist, Editor, Reporter, Radio Announcer	1	1
103 = Teacher, Professor, Librarian, Educator, Working with Retarded, Nursery School Teacher	10	7
104 = Social Worker, Clergyman	2	2
105 = Doctor, Dentist, Veterinarian, Chiropractor, Psychiatrist, Opthalmologist	10	5
106 = Registered Nurse, Pharmacist, Dietician, Physical Therapist, Optometrist, Work with Handicapped	9	7
107 = Medical or Dental Technician, X-Ray Technician, Lab Assistant in Chemistry	1	2
108 = Natural Scientist, Mathematician, Engineer, Architect, Chemist, Physicist, Geologist, Archeologist, Zoo Keeper, Oceanographer	4	5
109 = Draftsman, Surveyor, Electronic Technician, Computer Programmer, Radio Operator, Air Traffic Controller	1	3
110 = Lawyer, Judge	3	2
111 = Recreation Professional, Coach, Sports Instructor, Boxer, Baseball Player, Horse Trainer, Deep-sea Diver, Animal Trainer, Jockey, Motorcycle Racer	7	3
112 = Tutor in Education, Scout Leader	-	-
113 = Other Professionals or Technical Workers: Funeral Director, Forester, Airplane Pilot, Accountant, Personnel Worker, Navigator, Geographer, Translator, Interior Decorator, Anthropologist, Conservationist, Social Scientist, Economist, Flight Director, Psychologist, Counselor	1	4
114 = Farmer, Farm Manager: Dog Breeder, Own Kennel Keeper, Florist, Horticulturist	1	1
115 = Farm Laborers: Foreman, Bean Walker, Cherry Picker, Work on a Farm or Ranch	0.2	0.2
116 = Owner of a Business: Contractor, Restaurant Owner	1	1
Managers or Administrators		
117 = Government Official, Politician	-	1
118 = Manager or Assistant Manager of a Store, Dept. Head in a Store, Credit Manager	0.2	1
119 = Buyer, Purchasing Agent	-	0.3
120 = Other Managers or Administrators: Postmaster, Union Official, Ship Pilot, Principal, Banker, Game Warden, Antique Dealer, School Board, Racketeer, Treasurer	1	0.4
Clerical		
121 = Office Workers: Secretary, Typist, Stenographer, Bookkeeper, Payroll Clerk, Receptionist, File Clerk	5	8

Table 2.413 (cont'd)

Category	Age Group 13	 17
Clerical (cont'd)		
122 = Other Clerical Workers: Key Punch Operator, Bank Teller, Cashier, Library Assistant, Insurance Investigator, Shipping Clerk, Switchboard Operator, Ticket Agent, Mail Carrier, Stock Clerk, Work in Library, Work in Media Center, Travel Agent, Clerk	1	1
Sales		
123 = Professional Sales Workers: Insurance Agent, Broker, Real Estate Agent, Stock or Bond Salesman	0.3	0.2
124 = Other Sales Workers: Salesman, Demonstrator, Sales Clerk, Advertising Agent, Auctioneer	0.3	1
Craftsman		
125 = Building Trades: Carpenter, Brickmason, Tile Setter, Electrician, Painter (Construction only), Plasterer, Plumber, Roofer, Heavy Machine Operator, Carpet Layer	2	3
126 = Mechanics and Metal Workers: Blacksmith, Machinist, Car or Airplane Mechanic, Radio or TV Repairman, Appliance Repairman, Tinsmith, Toolmaker, Works on Cars, Tool and Die	3	5
127 = Other Craftsmen: Baker, Inspector, Telephone Lineman, Optician, Shoe Repairman, Tailor, Railroad Engineer, Printer	0.2	1
128 = Military (Unless otherwise classified)	1	2
Operatives and Apprentices		
129 = Apprentices to a Craftsman	–	–
130 = Transportation: Cab Driver, Bus Driver, Truck Driver, Ambulance Driver, Deliveryman, Boatman, Tractor Driver	2	1
131 = Other Operatives: Assembler, Assemblyline Worker, Seamstress, Laundry Operatives, Miner, Packer, Wrapper, Painter, Welder, Meat Cutter, Gas Station Attendant, Factory Worker, Steel Worker, "Hauling," Oil Rig	1	1
Service Workers		
132 = Protective Service: Policeman, Fireman, Guard, Lifeguard, Sheriff, Detective, Forest Ranger	3	3
133 = Medical Attendant: Practical Nurse, Nurse's Aid, Orderly, Hospital Attendant, Candy Striper (Volunteer)	0.2	1
134 = Hairdresser, Barber, Cosmetologist	1	1
135 = Babysitter, Nursery School Attendant	0.1	0.3
136 = Cook	0.3	0.3
137 = Airline Stewardess, Flight Attendant	3	1
138 = Model	1	1
139 = Paper Route	–	–
140 = Waiter, Waitress, Bartender, Car Hop	0.2	0.2
141 = Do Washings, Take in Ironings (For Private Household)	–	–
142 = Maid, Janitor, Cleaning Lady, Window Washer, Housework, Work around the house (Garage)	0.2	–
143 = Usher, Elevator Operator, Restaurant Hostess, Patrol Lady	–	–
144 = Porter, Golf Caddy, Carry-out Boy, Grocery Bagger, Bellboy	–	–

Table 2.413 (cont'd)

Category	Age Group	
	13	17
Service Workers (cont'd)		
145 = Attendants: Coat Check Girl, Skating Rink Attendant, Bat Boy, Locker Room Attendant, Altar Boy, Bingo Attendant, Concession Attendant, Pin Setter, Swimming Pool Attendant, Ticket Taker, Ice Cream Scooper	-	-
146 = Dishwasher, Bus Boy	-	-
147 = Shoe Shine Boy, Manicurist, Valet, Wardrobe Mistress, Make-up Man	-	-
148 = Other Service Workers: Tour Guide, Housemother, Page, Errand Boy, Camp Counselor, Teachers Aid, Walk Dogs, Work in School Office, Server at Auctions, Caretaker, Catering, Take Care of Pets	0.1	-
Laborers		
149 = Outdoor Work: Gardener, Snow Shoveler, Lawn Mower, Leaf Raker, Cleaning the Yard	0.1	0.2
150 = Fisherman, Trapper	0.1	-
151 = Other Laborers: Carpenter's Assistant, Construction Laborer, Car Washer, Groom, Garbage Collector, Longshoreman, Handyman, Lumberman, Stock Boy, Car Greaser, Dock Boy, Taking a Boat Out, Logger, Take out the Garbage, Garbage Collector, Odd Jobs around the House, City Street Worker, Kennel Keeper	0.2	0.3
Other		
152 = Housewife, Homemaker	2	2
153 = Student	-	-
156 = Other Acceptable Responses: Measure Rain, Collect Papers for Recycling, Taking this Test, Gambler	-	0.1
157 = Door-to-door Collection, Distribution, Cheering Up, Carnival in Backyard	-	-
160 = Business, Insurance, Work in Bank, Banking	0.4	1
161 = Medicine	0.1	0.2
162 = Government Work	0.1	-
163 = Construction	0.2	0.3
164 = Peace Corps, Vista, Red Cross	0.2	-
291 = Other Unacceptable: Work at ..., Restaurant, MacDonalds, Dairy Queen, Working with Animals, Community Work	2	4
292 = "None"	-	1
399 = I Don't Know	1	2

TABLE 2.414

PERCENTAGE NAMING UP TO THREE LIKED THINGS ABOUT A JOB
EXERCISE 104 015

	Age Group	
	13	17
First Thing	78	84
Second Thing	70	78
Third Thing	53	64

TABLE 2.415

PERCENTAGE NAMING A "THING LIKED" CATEGORY AT LEAST ONCE EXERCISE 104 015

Category	Age	Nat.	Sex M	Sex F
Responsibility, Challenge, Self-Improvement	13	15		
	17	17		
Helping People	13	28	15	39
	17	23	16	29
Prestige	13	6	8	4
	17	6	7	5
Availability of Jobs	13	1		
	17	2		
Duties, Parts, or Environment of the Job	13	53		
	17	53		
Mechanical Aspects of the Job	13	20	27	12
	17	37	48	27
Job Qualifications	13	2		
	17	1		
Personal Abilities	13	1		
	17	2		
Interpersonal Relations	13	24	16	30
	17	33	23	43

Among "things liked" (Table 2.415), the most popular response category was Duties, Parts, or Environment of the Job, mentioned at least once by 53% of both age groups. After that came the category labeled Mechanical Aspects of the Job, which--as in a previous exercise--includes money: it accounted for 37% of the seventeens and 20% of the thirteens. Both age groups showed a big sex difference in this category: 48% of the males and 27% of the females among the seventeens and 27% of the males and only 12% of the females among the thirteens. The sex differences ran in the other direction for two categories that accounted for a substantial number of acceptable responses. Interpersonal Relations attracted 43% of the female seventeens, but only 23% of the males, and 30% of the female thirteens, but only 16% of the males. Similarly, Helping People was mentioned by 29% of the female seventeens compared with 16% of the males, and by 39% of the female thirteens compared with 15% of the males. The category called Responsibility, Challenge, Self Improvement attracted 17% of the seventeens and 15% of the thirteens, with no significant sex differences. Responses involving Prestige were made by about 6% of both age groups, and were somewhat more frequent among males than females. Only 2% or fewer mentioned Personal Abilities, or Job Qualifications, or Availability of Jobs.

It is interesting to compare the relative popularity of these response categories to the data for similar categories reported in connection with exercise 104 009, in which respondents were asked to "list ten different things that a person should think about in choosing a job or career." Although the two exercises are framed in different ways (one personal and the other impersonal) and ask for different numbers of responses (three vs. ten), both are attempts to get at constructs used in evaluating jobs. Working Conditions, Mechanical Aspects of Job, which includes money, came out high in both instances. Duties, however, which was the most popular category in 104 015 (the exercise now under discussion), received scant mention in 104 009. On the other hand, Personal Satisfaction, Interest, Desires or Goals was one of the most attractive categories in 104 009, and was not even used as a category to describe responses in 104 015. A number of other large discrepancies in relative position can be noted among the remaining categories. One would assume that consistent procedures were used across the exercises in defining rubrics and in sorting items under them. The near-identity in wording of rubrics in the two exercises would seem to corroborate the assumption. In any case, this cross-exercise comparison illustrates the dangers of making inferences about salient constructs without appropriate cautions against generalizing beyond the specific procedures used.

See Table 2.416, p.96

In Part E, asked to "name three things about this job that you might NOT like," respondents were less productive of negative aspects of the job than they had been of positive aspects in Part D. As indicated in Table 2.416, about 74% of the seventeens and 67% of the thirteens could name the first "thing" acceptably; 55% and 54%, respectively, could name the second "thing"; and only 35% of both age groups could name the third "thing."

See Table 2.417, p.97

Table 2.417 shows that the rank order of things not liked was very similar to things liked. Again, most frequently mentioned were Duties... (36% of the seventeens, 37% of the thirteens) and Mechnical Aspects... (42% of the seventeens and 32% of the thirteens, with more males than females making the responses that had

TABLE 2.416

PERCENTAGE NAMING UNLIKED THINGS ABOUT A JOB
EXERCISE 104 015

	13	17
First Thing	67	74
Second Thing	54	55
Third Thing	35	35

TABLE 2.417

PERCENTAGE NAMING A "THINGS NOT LIKED" CATEGORY AT LEAST ONCE
EXERCISE 104 015

Category	Age	Nat.	Sex M	Sex F
Responsibility, Challenge, Self-Improvement	13	7		
	17	7		
Helping People	13	9	5	13
	17	6	5	8
Prestige	13	4	5	3
	17	3	4	1
Availability of Jobs	13	1		
	17	3		
Duties, Parts, or Environment of Job	13	37		
	17	36		
Mechanical Aspects of the Job	13	32	36	28
	17	42	47	37
Job Qualifications	13	5		
	17	8		
Personal Abilities	13	3		
	17	3		
Interpersonal Relations	13	17	11	22
	17	19	13	26

to do with money, hours, safety, etc. included under this rubric). Interpersonal Relations were of concern to 19% of the seventeens and 17% of the thirteens with twice as many females as males making responses in this category. Females also greatly outnumbered males in mention of Helping People. The sex difference in these two categories was consistent with the response patterns in the previous section.

In general, the similarity in patterns of response between Part D and Part E (similar rank order in popularity of categories, similar age differences and sex differences within categories) indicates that the same constructs are elicited whether the request is positive ("things you would like") or negative ("things you might not like").

See Table 2.418, p.99

In Part F, naming "three skills or abilities you must have in order to do that job," slightly over half of both age groups wrote acceptable responses in the space for the first skill, about half for the second, and considerably less than half for the third (Table 2.418). Clearly, knowledge of skills or abilities required for the job that adolescents are most interested in doing is less than universal. By any standard, this seems to represent a great deficiency in occupational information. The deficiency is not conspicuously improved at age 17 compared with age 13.

See Table 2.419, p.100

TABLE 2.418

PERCENTAGE NAMING UP TO 3 SKILLS OR ABILITIES NEEDED TO DO A JOB
EXERCISE 104 015

	13	17
Skill No. 1	52	55
Skill No. 2	48	51
Skill No. 3	37	38

TABLE 2.419

PERCENTAGE NAMING UP TO 3 APPROPRIATE JOBS USING THE SAME SKILLS OR ABILITIES
EXERCISE 104 015

	13	17
Job No. 1	58	63
Job No. 2	45	52
Job No. 3	28	34

Finally, Part G asks for names of "three jobs you could get into using the SAME skills or abilities." There is no way of judging the accuracy of the responses from the data. Acceptable responses were not necessarily accurate responses. As Table 2.419 shows, over half of both age groups wrote an acceptable response in the space for the first job--that is, they named a job. About half responded acceptably for the second job, and considerably less than half for the third. Since the pattern of acceptable responses for Part G is very similar to that for Part F, one wonders whether the people who could name skills or abilities required to do a job were the same people who could name other jobs requiring similar skills or abilities. It seems reasonable to expect this to be the case, but no data are available to confirm the expectation.

.45 Employment Background and Plans (104 016: 17, A)

This far-ranging exercise first asks about employment experience, again specifying that unpaid homemaking and community or religious work are counted as jobs. Parts A through H determine whether the person now has a job or recently had a job, whether it is or was full-time or part-time, and what kind of job it is or was. Part I asks, "What are three things about that job that you LIKE? (LIKED?)" and Part J counters with "...three things about that job that you DISLIKE? (DISLIKED?)." Part K inquires "Is (was) there anything in your work that gives (gave) you a sense of satisfaction or that is (was) particularly worthwhile about your job?" and Part L asks that those things be specified, leaving five spaces for the responses.

After this attempt to get at likes and dislikes and satisfactions in a current or recent job, Part M asks what the person has done or could do to improve skills at that job or to advance to a better job, leaving spaces for three ideas for improvement. Part N asks, "What are three (other) jobs you are NOW qualified to do without additional training?" Part O adds, "What jobs would you like to LEARN to do?"

This exercise is a reprise, in many respects, of the other released exercises that attempt to get at some of the constructs people use in respect to occupations; this one differs in that it ties the constructs to actual job experience. Responses to Parts I through L provide an opportunity to note the dimensions of likes, dislikes, and satisfactions (values) along which people perceive their jobs. The remaining parts that deal with efforts at improvement of skills, knowledge of other jobs, and preferences for other jobs would be interesting addenda for individual case studies. One could then ask whether people who dislike major components of their present jobs are trying to improve their skills in order to move to a more attractive job and can name appropriate jobs to move to. In the absence of related information about individuals, however, the data derived from these latter parts do not appear to be illuminating and are omitted from the present commentary.

See Table 2.420, p.103

As would be expected, many more adults than seventeens were working full-time: 82% of the adults and 38% of the seventeens (Table 2.420). An additional 7% of the adults and 8% of the seventeens were working part-time. Of the adults, 8% had worked full-time in the past, 2% part-time, and only 1% had never worked. Of the seventeens, 29% had worked full-time, 13% part-time, and 12% never.

See Table 2.421, p.104

TABLE 2.420

WORK EXPERIENCE
EXERCISE 104 016

	17	Adult
Now working full-time	38	82
Now working part-time	8	7
Have worked full-time	29	8
Have worked part-time	13	2
Have never worked	12	1

TABLE 2.421

CURRENTLY EMPLOYED
EXERCISE 104 016

Response	Age	Nat.	Sex M	Sex F	Race Other	Race Black	Race White	Size & Type Community LOMT	Size & Type Community HIMT
Yes	17	46	59	34	23	29	52	32	69
	Adults	90	95	85					
No	17	54	41	66	77	71	48	68	31
	Adults	10	5	15					

Table 2.421 shows that there were sex differences: among the adults, 95% of the males and 85% of the females currently had a job; among the seventeens, 59% of the males and 34% of the females were working. There were also differences favoring whites over blacks and other races, and high metro over low metro communities.

See Table 2.422, p.106-107

Of the categories used to describe things liked about the job (Table 2.422), Interpersonal Relations was the most popular in both age groups, with 48% of the seventeens and 45% of the adults making at least one response that shows appreciation for co-workers or others encountered on the job. There were no significant sex differences in this category, but virtually all the other categories (except in Homemaking careers) were mentioned much more frequently by males than by females. Good Working Conditions, Hours, Location, Fringe Benefits were mentioned at least once by about a third of both age groups, and Pay is Good by about a fourth. About a fifth of the adults and 17% of the seventeens mentioned Specific Duties or Requirements of the Job. Job Allows Independent Work was mentioned by 13% of the adults and 5% of the seventeens. Two categories--Job is Interesting or Fun to do and Provides A Challenge and A Sense of Responsibility--each drew responses from about 13% of the adults and only 3% of the seventeens. The converse of the last-named category--Doesn't Require Taking Responsibility--appealed to 4% of the adults and 11% of the seventeens. More seventeens (9%) than adults (7%) also liked the opportunity for learning, or Self Improvement. Adults led seventeens, however, in the categories Feels Job is Worthwhile, Of Help to Mankind (6% and 1% respectively), Sense of Power, Prestige (4% and 1%), Job is Secure (3% and 1%) and Ability to Produce a High Quality Product (3% and 2%).

TABLE 2.422

THINGS LIKED ABOUT A JOB
EXERCISE 104 016

Category	Age	Nat.	Sex	
			M	F
Job is Interesting or Fun to do	17	3		
	Adult	13	18	9
Feels Job is Worthwhile, of Help to Mankind	17	1	0.1	2
	Adult	6		
Job is Secure	17	1		
	Adult	3	4	1
Sense of Power, Prestige	17	1		
	Adult	4	6	1
Job Allows Independent Work	17	5		
	Adult	13	22	6
Provides a Challenge & Sense of Responsibility	17	3		
	Adult	13	20	8
Self Improvement	17	9	12	5
	Adult	7		
Doesn't Require Taking Responsibility	17	11	16	7
	Adult	4		
Good Working Conditions, Hours, Location, Fringe Benefits	17	33	41	26
	Adult	34	45	24
Pay is Good	17	27	37	19
	Adult	25	34	16
Specific Duties or Requirements of the Job	17	17	23	12
	Adult	20	23	17
Ability to Produce a High Quality Product	17	2		
	Adult	3	4	2
See Company and/or Self Succeed	17	2		
	Adult	1		
Interpersonal Relations	17	48		
	Adult	45		

For Housewife/Homemaker:				
Save Money	17	-		
	Adult	1	0	2
Time with Family	17	0.1		
	Adult	6	0.1	12
Freedom to Set Own Hours, Being Own Boss	17	0.3		
	Adult	6	0	12
Lack of Responsibility	17	-		
	Adult	1	0	2

Table 2.422 (cont'd)

Category	Age	Nat.	Sex	
			M	F
For Housewife/Homemaker: (cont'd)				
Extra Time/Activity	17	0.1		
	Adult	1	0	2
Family Recognition	17	0.1		
	Adult	0.4	0	1
Like Home Atmosphere	17	0.1		
	Adult	2	0.1	4
Sense of Accomplishment	17	0.6		
	Adult	3	0.1	5
Taking Care of the Family	17	0.2		
	Adult	7	0.2	14
Home Decorating	17	-		
	Adult	1	0	2
Cooking	17	1		
	Adult	7	0.1	13
Sewing	17	-		
	Adult	2	0.1	4
Housecleaning	17	0.4		
	Adult	4	0.2	7
Ironing	17	-		
	Adult	0.3		
Yardwork, Gardening	17	0.1		
	Adult	2	0.1	3
Make House Comfortable	17	-		
	Adult	1	0	2
Other Household Duties	17	0.1		
	Adult	2	0	3
Other Acceptable Responses	17	0.2		
	Adult	2	0	3

Like the Job	17	9		
	Adult	8		
Having a Job	17	2		
	Adult	1		
Don't Know	17	5		
	Adult	4		
No Response	17	23		
	Adult	7		

It must be emphasized that these responses represent what people like in their present or recent jobs. They do not necessarily represent the pattern of values that would govern career decisions. Still, allowing for differences in the framing of the questions and of categorizing the responses, the general pattern of these responses is quite consistent with the pattern previously indicated in exercises 104 009 and 104 015. The highly visible extrinsic rewards--money--and concomitant conditions of the job, such as pleasant co-workers, convenient location, and acceptable hours, were mentioned frequently by both age groups, as were specific duties and activities, which may be interpreted to imply intrinsic interest. Responses involving such other characteristics as opportunities for interesting work, independence, and challenge were less frequent, but still drew appreciable mention from the adults, while dwindling down to very scant mention among the seventeens. Perhaps the jobs held by seventeens provide less opportunity for these satisfactions. The differences between adults and seventeens both in job opportunities and in the meaning of a job are highlighted by the responses involving responsibility: adults tended much more frequently than seventeens to value responsibility or challenge in their jobs; seventeens tended much more frequently than adults to value lack of responsibility.

A number of the adult females, but virtually none of the adult males or the seventeens, accepted the invitation to name Homemaker as their job. The things adult females tended to like about homemaking were Taking Care of the Family (14%), Cooking (13%), Freedom to Set Own Hours, Being Own Boss (12%) and Time With Family (12%).

See Table 2.423, P. 109-111

TABLE 2.423

THINGS DISLIKED ABOUT A JOB
EXERCISE 104 016

Category	Age	Nat.	Sex	
			M	F
Job is Boring	17	2		
	Adult	3	4	2
Job is Not Satisfying	17	1		
	A	1		
Insecurity	17	0.3		
	A	1		
Not Enough Power	17	1		
	A	2	4	1
Not Enough Independence	17	1	2	0.2
	A	2		
Too Much Independence	17	1		
	A	1		
Not Enough Challenge	17	1		
	A	2		
No Chance to Improve Mind	17	0		
	A	0.1		
Too Much Responsibility	17	8		
	A	9	11	8
Poor Working Conditions, Hours, Location, Fringe Benefits	17	34		
	A	47	62	33
Pay is Low	17	13		
	A	14	17	10
Too Dangerous	17	1		
	A	1	1	0.2
Specific Duties or Requirements of the Job	17	18		
	A	13		
No Recognition	17	0		
	A	1		
Low Quality Product or Service	17	1		
	A	2		
See Company or Self Fail	17	0.4		
	A	1		
Interpersonal Relations	17	25	21	29
	A	21	20	16
Other Acceptable Responses	17	1		
	A	2		

Table 2.423 (cont'd)

Category	Age	Nat.	Sex M	Sex F
For Housewife/Homemaker:				
Work is Repetitive	17	–		
	Adult	5	0.1	10
Feel Not Useful	17	–		
	A	0.2	0	0.4
No Personal Identity	17	–		
	A	0.2		
Not Out Among Others	17	0.1	0	2
	A	1		
Feel Taken Advantage of	17	–		
	A	1	0	1
No Time for Self	17	0.1		
	A	3	0	6
Financial Dependence	17	–		
	A	2	0	4
No Family Recognition	17	–		
	A	0.3	0	1
Physical Conditions/Home	17	–		
	A	0.5	0	1
No Sense of Accomplishment	17	–		
	A	0.4	0	1
Take Care of Family	17	–		
	A	1	0.1	2
Home Decorating	17	–		
	A	0.1		
Cooking	17	–		
	A	2	0.2	4
Sewing	17	–		
	A	0.2	0	0.4
Housecleaning	17	1		
	A	6	0.1	12
Ironing	17	–		
	A	5	0.2	10
Yardwork	17	0.1		
	A	1	0	1
Washing Dishes	17	1	0	1
	A	3	0	7
Other Household Duty	17	1	0	2
	A	5	0.2	9
Other Acceptable Response	17	0.2		
	A	2	0.1	3

Table 2.423 (cont'd)

Category	Age	Nat.	Sex	
			M	F
Don't Like Job	17	1		
	Adult	1		
Having a Job	17	0.5		
	A	0.2		
Don't Know	17	10		
	A	16		
No Response	17	46	51	40
	A	35		

When it came to naming things that people disliked about their jobs (Part J), perhaps the most interesting datum was that the combined Don't Know and No Response categories accounted for over half of each age group (Table 2.433). This finding corresponds, in general, with the many studies of job satisfaction that indicate most people tend to be satisfied with their jobs. Responses that fell in the category Poor Working Conditions, Hours, Location, Fringe Benefits were made at least once by 47% of the adults and 34% of the seventeens. Many more adult males than females disliked their working conditions (62% and 33%, respectively). Interpersonal Relations were mentioned at least once by 21% of the adults and 25% of the seventeens. About 14% of the adults and 13% of the seventeens said Pay is Low. Specific Duties or Requirements of the Job were disliked by 13% of the adults and 18% of the seventeens.

Although there are some differences in rank order of categories between the "likes" and "dislikes," the same four categories are most frequently mentioned in both Parts I and J. This finding is consistent with the similarity of constructs for "likes" and "dislikes" among thirteens and seventeens, previously indicated in the analysis (p. 98) of exercise 104 015. It tends to contradict theories (Herzberg, et.al., 1959*) that the dimensions of job satisfaction are different from the dimensions of job dissatisfaction. Instead, the dimensions along which people evaluate their job likes and dislikes appear to be bipolar.

Among the homemakers, the most frequently mentioned dislike was Housecleaning, mentioned by 12% of the adult females in the sample. About 10% disliked the fact that Work is Repetitive, and 10% also mentioned Ironing. So there is some evidence that likes and dislikes among homemakers are represented by different categories. Perhaps the "hygiene" theory of job dissatisfaction should be limited to people in homemaking careers.

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*Herzberg, F.; Mausner, B.; and Snyderman, B. The motivation to work. New York: John Wiley, 1959.

See Table 2.424, p.114

To the question in Part K, whether anything in their work gave them a sense of satisfaction or was particularly worthwhile, Table 2.424 shows that 90% of the adults said yes. So did 60% of the seventeens, with sub-group differences favoring males over females, whites over blacks, and post-secondary lower levels of parental education.

See Table 2.425, p.115-116

As Table 2.425 shows, asked in Part L to specify what gave them a sense of satisfaction or was worthwhile, 39% of the adults and 14% of the seventeens made at least one response that was collected under the somewhat cumbersome category, Ability to Produce a Quality Product or Just Doing Best He or She Can, with higher percentages of males than females and whites than blacks, in both age groups. About 22% of the adults and 11% of the seventeens mentioned that old standby, Interpersonal Relations. Among the adults, this category was named more often by males than females, and also more often by blacks than whites; but among the seventeens, females mentioned it more often than males did. Responses categorized as Worthwhile (Societal Sense) were made at least once by 18% of the adults, but only 6% of the seventeens, with the percentage of females exceeding that of males in the latter group. The Pay was found to be a source of satisfaction to 10% of the adults (more males than females), and 13% of the seventeens. A slightly higher proportion of seventeens than adults mentioned Chance for Self Improvement (10% and 9%, respectively), with the proportion of white seventeens higher than blacks in this category. Specific Duties were

TABLE 2.424

FOUND A SENSE OF SATISFACTION IN WORK
EXERCISE 104 016

Response	Age	Nat.	Sex		Race		Parental Education
			M	F	Black	White	Post
Yes	17	60	65	54	41	64	73
	Adult	90					
No	17	23					
	Adult	8					
No Response or Don't Know	17	17	11	23			
	Adult	2					

TABLE 2.425

THINGS ABOUT A JOB WHICH GIVE SATISFACTION
EXERCISE 104 016

Category	Age	Nat.	Sex		Race	
			M	F	Black	White
Job is Interesting	17	1				
	Adult	3				
Worthwhile (Societal Sense)	17	6	4	9		
	A	18				
Job is Secure	17	0.2				
	A	1	3	0.2		
Power, Prestige	17	2			0	3
	A	6	8	3		
Independent Work	17	1				
	A	4				
Challenge & Sense of Responsibility	17	2				
	A	9	11	6	4	9
Chance for Self Improvement	17	10			4	12
	A	9				
No Responsibility	17	1				
	A	1				
Having a Job	17	5				
	A	2				
Working Conditions, Hours, Location, Fringe Benefits	17	2	3	1		
	A	7	10	4		
The Pay	17	13				
	A	10	13	7		
Specific Duties	17	5	7	3		
	A	10	13	7		
Recognition by Others	17	5				
	A	9	11	7		
Ability to Produce a Quality Product or Just Doing the Best He or She Can	17	14	21	8	8	17
	A	39	51	28	30	41
See Company and/or Self Succeed	17	4				
	A	7	9	5	4	8
Interpersonal Relations	17	11	9	14		
	A	22	25	18	27	21
Other Acceptable Responses	17	1				
	A	1				

Table 2.425 (cont'd)

Category	Age	Nat.	Sex		Race	
			M	F	Black	White
For Housewife/Homemaker: Work is Interesting	Adult	0.3				
Save Money	A	3	1	5		
Time with Family	A	6	0.2	11		
Set Own Hours	A	1	0	2		
Lack of Responsibility	A	0.1				
Extra Time/Activity	A	2	0.1	4		
Family Recognition	A	4	0	7		
Like Home Atmosphere	A	1	0	1		
Sense of Accomplishment	A	9	0.1	16		
Take Care of Family	A	7	0	13		
Home Decorating	A	1	0.1	2		
Cooking	A	3	0	7		
Sewing	A	1	0.1	3		
Housecleaning	A	2	0	4		
Yardwork, Gardening	A	1	0	3		
Make House Comfortable	A	5	0	9		
Other Household Duty	A	3	1	4		
Other Acceptable Response	A	2	0	4		

Like the Job	17	2				
	A	3				
Don't Know	17	4				
	A	21				
No Response	17	54	60	48	30	60
	A	49	52	46		

named by 10% of the adults and 5% of the seventeens, with more males than females in both groups. Recognition by Others drew mention from 9% of the adults (more males than females) and 5% of the seventeens. Challenge and Sense of Responsibility appealed to 9% of the adults (more males than females), but only 2% of the seventeens. The familiar category, Working Conditions, Hours, Location, Fringe Benefits, was named as a source of satisfaction by 7% of the adults, but only 2% of the seventeens, and was more popular with males than with females in both groups. Power, Prestige was mentioned by 6% of the adults (more males than females) but only 2% of the seventeens.

So when likes and dislikes have been asked about first, a call to designate satisfactions, or what is worthwhile about a job, elicits a somewhat different rank order of popularity of various response categories. Nevertheless, the general array of constructs used is similar in the responses to both questions.

.46 Summary and Content

Of the five released exercises for the sub-objective, Plan for Career Development or Change, two appear discrete, while the other three are related. Responses to exercise 104 003 indicated, not surprisingly, that seventeens were more sophisticated than thirteens in perceiving connections between a school subject and a job. Another exercise, 104 011, revealed rather scant identification of resources that would be used to get information about a job: only one resource, Talk to or Observe People in the Field, was mentioned by a majority of the seventeens, and none by a majority of the thirteens.

The other three exercises all asked respondents, in one way or another, to define the dimensions along which they perceived and evaluated occupational characteristics. Asked to name "things a person should think about in choosing a job or career" (exercise 104 009), thirteens and seventeens generated a broad domain of constructs, involving eight major categories. Most of these categories included a number of highly specific items--for example, salary, hours, location, etc. under Working Conditions, Mechanical Aspects of Job. On the other hand, responses classified under Personal Satisfaction, Interest, Desires or Goals tended to be quite vague; many people mentioned the category just once, in general terms, with no specification of the components of satisfaction.

Exercise 104 015, dealing with future job plans, found a majority of the thirteens and a strong plurality (but less than half) of the seventeens naming professional occupations. Asked to name things they liked about their job choice, a majority of each age group mentioned items classified under Duties, Parts or Environment of the Job. Sex differences were apparent in several categories: among both age groups, females mentioned Interpersonal Relations and Helping People more than males did; males more frequently mentioned facets of Mechanical Aspects of the Job (including money) and Prestige. The rank order of "things not liked" was very similar to that of "things liked," and sex differences appeared in the same categories and directions. Thus, similar constructs were elicited regardless of whether the stimulus was framed in positive or negative terms. Although the categories used for exercises 104 009 and 104 015 were quite similar, the rank order of popularity of the categories varied considerably in the two exercises. Apparently, asking people to name "things a person should think about in choosing a job" and asking them what they like or dislike about a job they are considering tap different sets of priorities. It is not clear why this is so. Knowledge of specific jobs does not appear to be an important factor: most of the respondents could not list three skills or abilities needed to do the job they had named in exercise 104 015.

Finally, exercise 104 016 used another approach to get at the dimensions along which people evaluate jobs. In this case, seventeens and adults were asked about their likes, dislikes, and satisfactions in respect to jobs actually held. (Only 12% of the seventeens and 1% of the adults had never worked. But among seventeens 52% of the whites and only 29% of the blacks were currently employed.) Allowing for differences in the questions, ages, and response categories, these three exercises showed some consistent response patterns: the highly visible extrinsic rewards--money--and such other conditions of work as hours, location, and the like were mentioned frequently. But Interpersonal Relations (having pleasant co-workers) came to the fore in indicating what people liked about jobs they had actually held. The high No Response and Don't Know rate when people were asked to name what they disliked about their jobs is consistent with the frequent positive findings in surveys of job satisfaction. In this connection, it is interesting that 90% of the adults found something in their work that gave them a sense of satisfaction.

In analyzing the responses to the questions about likes, dislikes, and satisfactions, one must guard against confounding frequency of a category with importance. The things people think of mentioning most often (most readily) are not necessarily the things that are most important to them. A category like Working Conditions includes many highly visible characteristics of jobs (location, hours, etc.) and is therefore likely to come to mind quickly when a question about the job is asked. A category like Security--even during a period when unemployment rates are relatively high--does not seem to occur to people so readily. Yet when a list of such categories is presented, with each category defined in operational terms, and people are asked to assign weights to the categories to indicate the relative importance of each one, Security tends to outweigh Working Conditions (Norris & Katz, 1970;[1] Chapman, Norris, & Katz, 1973[2]). A study by Katz, Norris, & Pears, 1976[3] capitalized on this phenomenon as a measure of competence in career development: in the first phase of a simulated occupational choice exercise, subjects specified characteristics of occupations that were most important to them (and then received information relevant to their specifications); in the second phase, they were given an opportunity to select other characteristics that were defined for them; finally, they weighted the importance of all characteristics. The ability to generate specifications with higher weights than those later selected was regarded as one index of competence--i.e., a person's explicit awareness of what characteristics were most important in evaluating occupations. Needless to say, many subjects specified characteristics such as Working Conditions in Phase 1, selected characteristics such as Security in Phase 2, and then gave higher weight to Security than to Working Conditions.

Thus, we find again in the data from exercise 104 016 substantiation of a major theme running through the findings from all the released exercises that deal with the sub-objectives, "C. Relate own personal characteristics to occupational requirements," and "D. Plan for career development or change," under the general objective "I. Prepare for making career decisions." That theme may be summarized as a gap between constructs that derive from examined values and those that derive from unexamined values. The things that pop into people's heads and responses when they have not subjected their values to close

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1. Norris, L. & Katz, M. The Measurement of Academic Interests: Part II The Predictive Validities of Academic Interest Measures, CEEB RDR 70-71, No. 5, RB 70-67, ETS, Princeton, 1970.
2. Chapman, W., Norris, L. & Katz, M. SIGI: Report of a Pilot Study Under Field Conditions, ETS, Princeton, 1973.
3. Katz, M., Norris, L., & Pears, L. Simulated Occupational Choice: A Measure of Competencies in Career Decision-Making, ETS, Princeton, 1976.

scrutiny are often less important to them than the things they emphasize when they have thoroughly explored and examined their values. The results of these seven exercises suggest that many people have not brought their own most important career values into explicit awareness. This is an area in which education and guidance programs can be effective. There is apparent need for schools and other educational and guidance agencies to adopt such programs.

Chapter 3 *

IMPROVE CAREER AND OCCUPATIONAL CAPABILITIES

(4 Exercises:
200 002: 9, 13, 17
200 016: 9, 13, 17
200 018: 9, 13
200 019: 9, 13)

Career develops not alone from career decisions but also from career and occupational capabilities which mature through the formative years of life. Seven released exercises of the Career and Occupational Development Study in the National Assessment of Educational Progress bear on the improvement of career and occupational capabilities. Although exercises 200 020 and 200 001 deal extensively with the paid and unpaid work which youths have done both at home and away from home for thirteens and seventeens respectively, they are not comparably structural. Since neither of these questions therefore offer data sufficient for cross age comparison, interpretation of each is left to the other reports in this series which deal exclusively with the status of career development at a particular age. Exercise 200 012 which dealt with the training or courses subjects had had after high school was administered to only adults in the NAEP sample. Interpretation of those data is therefore also left soley to the report in this series dealing exclusively with the career development status of adults.

The remaining four released exercises deal developmentally with career and occupational capabilities. These exercises will be treated in the order: chores done at home (200 002); visits made to various places of significance to educational and vocational choices (200 018); lessons and training obtained outside of school (200 016); and activities which have been done without help (200 019). This order will generally highlight career developing from the given

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* Chapter 3 was written by Anna Miller-Tiedeman

to the made, that is, from identifications and work assignments made at home through educationally and individually cultivated activities.

.11 Work Done to Help Out at Home (200 002: 9, 13, 17)

It is generally recognized that career development has its roots in chores done at home. This exercise attempts to determine if students do help out at home. Data in Table 3.1 indicate that practically all nines, thirteens, and seventeens do help out around the house. Most of the students named chores that were general to the up-keep of a house like cleaning the kitchen, feeding the dog, taking out garbage, and cleaning their own room. Helping at home proved so universal that there were no significant differences by region, sex, race, parental education or size and type of community.

Table 3.1
WORK DONE TO HELP OUT AT HOME
Exercise 200 002

Age	National
9	96
13	98
17	97

.12 Kinds of Sites Visited (200 018: 9, 13)

Career develops as students explore as well as perform assigned tasks at home. The intent of this question was to determine the extent to which young people had visited various places in the community, specifically: (1) a dairy; (2) a newspaper plant: (3) a museum; (4) a planetarium; (6) an aquarium; (7) a factory; (8) a college; (9) a farm; (10) a library; and (11) an airport.

The most accessible place in the above list for subjects to visit is the library since most all schools have libraries. This was probably a factor in the almost universal report by both nines and thirteens that they had visited

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See Table 3.2, p.123

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a library. The response is so universal among nines that there is little room for improvement among thirteens.

Visiting a zoo, an airport, a farm, and a museum were the next most popular activities with approximately 80 to 90 percent of the nines and thirteens. In addition, there is an increase of 7 to 11 percentage points from ages 9 to 13. These four activities along with visiting a library seem to be rather universal in early life and to develop only when the site is non-school connected. It is also interesting that the first three of these activities after the library are probably the result of parent, not school initiative in the visit.

Visiting an aquarium and a factory both seemed to gain about 15 percent from the nines to the thirteens with the aquarium visit starting at about 55% of the nines and advancing to 70% of the thirteens and visiting a factory starting from 60% of the nines and advancing to about 75% of the thirteens. Hence these activities prove to be ones which are reported by from 11 to 12 in 20 of the nines and from 14-15 in 20 of the thirteens.

A visit to a dairy, a college, or a planetarium was reported by about 12 in 20 (60%) of the thirteens. However, each of these visits is reported by a progressively smaller percentage of the nines. Ten in 20 (about 50%) of the nines report a visit to a dairy, but only 8 in 20 (about 40%) of the nines report a visit to a college, and only 6 in 20 (about 30%) report a visit to a planetarium. Thus it appears that things of the land are more universally visited by the young than are things of the mind and the universe. However, schools must make some effort to get students to planetariums since at least 6 in 20 of the nines report such visits.

TABLE 3.2

PERCENTAGE VISITING VARIOUS PLACES
EXERCISE 200 018

Place Visited	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Oth	Blck	Whit	Unk	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Library	9	97			99											00	93				100	99	100
	13	98																			100	100	100
Zoo	9	88	80	92	92							87				92			83		96	97	95
	13	94	87	97	97											97	98		91		98		98
Airport	9	81	76	88	76					71	83	77	73	72		89	71	70					91
	13	90		94						83			81	82		94		80	85		94	96	98
Farm	9	80		73	90	75			64	67	83	75			85		66		87		63		
	13	88			94	83	90	86	77	78	90	81					79	95	92		81		81
Museum	9	77	63		82	81						73	63			86		64	72				91
	13	93	84			97							87	84		97		83	90		98	97	97
Factory	9	60			66		64	56		51	62	55				66							
	13	77					80	74				68			80								
Aquarium	9	53	41				57	50				49				60		41				61	
	13	70	60				76	65		57	72		52	56		77				60	81	79	83
Dairy	9	48		55			51	46		33	51	45		38		55	32					59	
	13	61	54	70			65	59												56			
College	9	41	35	50			44	39				35		27		53				48			
	13	60		68								49	42	46	57	71		52		69			
Planetarium	9	29			20	40	32	27				25	18	19		39		10	21				52
	13	58	44			69				45	61	44	49	44		68	40	35	51			72	78
Newspaper	9	16					19	13				13	13			20			19			13	
Plant	13	35					39	32	27	28	37	28		27		40	27		39		22		

184

Visiting a newspaper plant seems such a specific activity that not many of either the nines (3 in 20 or about 15%) or of the thirteens (7 in 20 or about 35%) report such visits.

Visits will develop career and occupational capabilities among the following proportions of thirteens with changes from the nines as indicated:

Proportion among Thirteens	Visits to	Change from Nines	General Incidence Quarter
20/20	Library	19/20 to 20/20	4
18/20	Farm, zoo, museum airport	About 15/20 to 18/20	4
14-15/20	Factory, acquarium	11-12/20 to 14-15/20	3
12/20	Dairy, college, planetarium	6-10/20 to 12/20	2
7/20	Newspaper plant	3/20 to 7/20	1

The range of change from nines to thirteens is larger near the middle proportions (second and third quarters) than at either the high or the low quarters. This is generally the case because variability is likely to be greater when a visit is undertaken by about half the population then when it is either universally present or absent.

The general universality of the visits among thirteens also seems to suggest that, except for the library which is generally a part of a school anyway, parents start these career and occupational capability visits and that the school sees that students undertake some of them at a later time. However, it should be evident that the school sponsored visits of a potential career and occupational development nature are not too prevalent among nines and thirteens in the United States. Perhaps schools succeed in making such visits more universal later in the life developmental cycle than they do among nines and thirteens.

The incidence of these several activities giving rise to career and occupational capabilities varies demographically throughout the United States as well as developmentally. Although demographic variables by no means imprint monolithically upon the incidence of these career capability constructing visits, certain regularities appear which are worthy of note along with their exceptions. Specifically, the general imprints and their few exceptions are as follows.

In general, among nines and thirteens from homes with parental educational level above high school the incidence of visits is above the age average except for visits to libraries and to farms. Although the pattern is not as uniform when parents have educations short of high school graduations, the patterns do frequently mirror those for homes in which parents exceed high school graduations in their educations. The majority of the exceptions to these rules appear among the nines where the high school or less educational level of the parents generally leads to incidences of visits which are largely at age averages, not below them. The visit areas where the below age average sub-group differences appear for both age groups are to airports (a fairly high incidence activity) and to colleges and planetaria (two mid-range visit areas).

In visits to newspaper plants which are in the first incidence quarter, both age groups have males reporting incidences above their age averages and females reporting incidences below their age averages. In visits to dairies, colleges, and planeteria similar differences exist for both age groups in visits to dairies, but only for the nines for visits to colleges and planeteria.

In visits to fourth quarter places of incidence (zoos, airports, farms, museums, and libraries) only visits to farms show the uniform sex difference and then only among thirteens. It appears that, if sex stereotyping appears at all among visits which are fairly universal, it appears when the subjects hit their teens, not before.

Race differences occur among the incidences of visits which give rise to career and occupational capabilities but they do not appear as monolithically among these visits. There are no race differences in the almost universal visiting of libraries. In the visiting of airports and farms among the four types of visits with incidences in the fourth quadrant, blacks fall short of age averages and whites exceed them in incidence in both instances. However, blacks and whites are at age averages in the incidences of their visits to zoos and museums in this same quadrant. In visits to factories and acquaria in the third quarter of incidence, blacks fall short of age averages and whites exceed age averages only among the thirteens, not among the nines. Among the visits which are in the second quarter of incidence, the race pattern is quite variable: blacks fall short of age average and whites exceed it in visits to dairies among the nines; there are no race differences in college visits in either age group; and blacks fall short of age average while whites exceed it among thirteens in visits to acquaria. This latter pattern repeats itself in visits to newspaper plants which has an incidence in the first quarter. It appears that a teenage phenomenon in incidence difference may occur among blacks in the lower incidence visits.

Regional differences in visit incidence also occur. Subjects from the southeast are below age averages in visits to museums, zoos, acquaria in both age groups, in visits to airports and colleges among the nines, and in visits to dairies among the thirteens. Subjects from the northeast are above both age averages in visits to museums and planetaria but below in both age groups in visits to farms. Subjects from the central regions are above both age averages in visits to zoos and farms, above nine year age averages in visits to libraries and museums, and below nine year age average in visits to airports and thirteen year age average in visits to planetaria. Subjects from the west are above both age averages in visits to zoos, airports, dairies, and colleges, and below age nine average in visits to farms. It appears that the availability of several of these kinds of sites makes a difference in the incidence with which subjects visit them.

The availability of sites continues to imprint on the incidences of visits when the visits are categorized by type and size of community in which subjects reside. With a few exceptions which can be identified by careful study of incidence statistics in Table 3.2, subjects from metropolitan centers were above age averages in their visits to museums, zoos, planetaria, acquaria, libraries, and airports, sites characteristically found in metropolitan areas. On the other hand students from medium sized cities were the ones who exceeded age averages in the incidences of their visits to colleges. Finally, subjects from extreme rural, small places, and low socioeconomic status in metropolitan areas were generally below their age averages in incidences of visits to dairies, museums, zoos, planetaria, acquaria, and airports. As is to be expected, subjects from extreme rural and small places exceed their averages in visits to farms.

Summary

Visits to various sites lend initial experiental substance to the development of career and occupational capabilities. The NAEP data indicate that visits to libraries are quite universal in both age groups tested. Visits to farms, zoos, museums, and airports occur with incidences in the fourth incidence quarter. Visits to factories and acquaria occur with incidences in the third quarter. Visits to dairies, colleges, and planetaria have incidences in the second quarter. Visits to newspaper plants are in the first quarter of incidence. Developmentally, the largest changes of incidence from the nines to the thirteens occur in the third and second quarter rather than in the fourth and first quarters as is to be expected because of the greater room for change in middle over end quarters.

Demographically, parental education, sex, race, region, and community type imprint on incidence in anticipatable ways. Subjects from homes with parental education level exceeding high school graduation visit all these places except libraries and farms in excess of their age averages while subjects from homes with parental educational level of less than high school graduation fall short of their age averages in visits to these sites. Males tend to exceed their age averages in visits to sites in the lower two quarters of incidence while females fall short of their age averages. If sex stereotypes appear at all among visits to sites of high incidence, they come in with the teens, not the sub-teens. Race does imprint on incidence of site visiting but imprinting is quite variable. Generally, blacks fall short of age averages in visits to airports and farms and, for sites with first and second quadrants of incidences, generally in their teens but not their sub-teens. If there is any pattern at all to these incidences, it suggests that blacks who are now rather numerous in metropolitan centers still don't get visit experience equal to that of whites.

.13 Lessons, Training, or Courses Taken Outside of Regular School (200 016: 9, 13, 17)

Subjects were asked to list up to five lessons, training or courses they had taken outside of regular school. They could include lessons taken during summer school, summer camps, special classes, music or art lessons, and so forth.

Responses were classified as (1) school and academic, (2) in an organization such as scouts, (3) hobbies such as music or artistic activities, hobbies and crafts, and household skills, and (4) recreational such as games and individual group sports.

Response incidences of nines, thirteens, and seventeens to those of the above categories reported with an incidence of more than 1 in 20 are given in Table 3.3. The data in this table indicate that lessons out of regular school are reported in the school and academic area in about 3 in 20 of the three age groups with practically no developmental advance. Lessons in organizations such as scouts are similarly reported with incidences ranging from 2 to 3 in 20 with the thirteens reporting more than either the nines or the seventeens. On the other hand, lessons for individual sports range from 6 to 7 in 20 with the thirteens again reporting more than either the nines or seventeens. Lessons in group sports are reported by from 2 to 4 in 20 with thirteens exceeding nines but seventeens falling below both. Surprisingly, musical and artistic lessons have a reported incidence ranging from 7 to 9 in 20 with both thirteens and seventeens reporting lessons in greater incidence than nines but these activities are still lower in incidence among seventeens than among thirteens.

See Table 3.3, p.130

TABLE 3.3

PERCENTAGE OF ACTIVITIES OUTSIDE OF REGULAR SCHOOL
EXERCISE 200 016

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
School or Academic Areas	9	14								19	13							9					
	13	15				11				22	13												
	17	17								24	16						26	11		12			29
Names an Organization-Scouts etc.	9	13		9			11	15	8		14	10									7	20	
	13	15																				9	
	17	11							6			5	6			12							
Individual Sports	9	29	20			35	25	33	14	12	33	21		17		37	13						
	13	37					33	40	26	24	40	26											
	17	30	24				26	33		17	31	14	11	24		37	18						
Group Sports	9	15			12	20	20	10		7	17	12			20	18	8					21	23
	13	20				24	27	13		15	21	14				24							30
	17	10					12	7						5		11							
Musical or Artistic Activities	9	34					25	44			36	29	24	23	38	41	20						45
	13	47					35	59		41	49	35	36		42	59							59
	17	44					36	52		33	46	27	24	28	39	56							58

Thus the activities which seem to pull youths into lessons outside of regular school are, in descending popularity, musical and artistic, individual sports, group sports, school and academic activities, and organizational activities. The incidence of out-of-school lessons in the other areas scored was inconsequential.

Demographically, the incidence of school and academic activities were above age averages for blacks and below for whites. The incidences were also occasionally above age averages in metropolitan areas but not in rural and middle sized cities. It appears that metropolitan areas have summer school and the like more than less populated areas do.

The incidences of lessons in organizations failed to show any meaningful patterns in association with the sub-group differences which were significant in more than one age group. Demographically related incidences are therefore considered inconsequential in these activities.

Lessons in both individual and group sports seem to have strong relationship with socioeconomic conditions. For instance, subjects from homes in which postsecondary school education was present exceeded age averages while those from homes with less than high school graduation in the family were below age averages. Blacks were below age averages; whites above. Subjects from the southeast were below age averages in both age groups; nines from the northeast above. Those from low socioeconomic sections of metropolitan regions were below age averages. In addition, in individual sports, males were uniformly below age averages and females above while the reverse was true of group sports. This seems to be a real sex difference.

The incidence of musical and artistic lessons also showed the same strong socioeconomic linkages which occurred in the incidences of the individual sports. Homes with postsecondary parental educational levels were associated with higher than age average incidence; those with less than high school education with lower than age average incidences with high school graduation homes sometimes exceeding age averages and sometimes not. Blacks fall below age averages; whites above. High socioeconomic sections of metropolitan regions have higher than age average incidence. In addition, males are below age averages and females above.

.14 Activities Done Without Help (200 019: 9, 13)

Nines and thirteens were offered 26 activities to identify as having been undertaken without help or not. Although classification of these activities is somewhat tenuous, they generally fell into the categories which are (1) personal and family living, (2) communicative, and (3) technological in nature. We herein treat the activities in these three categories.

Personal and Family Living Activities

The personal and family living activities are further subdivided into activities dealing with (1) care of persons, (b) homemaking, (c) cooking, (d) sewing, and (e) gardening.

Care of Persons

The incidences of responses to items dealing with care of persons are reported in Table 3.4. This table indicates that babysitting is an independently done activity in 6 in 20 thirteens while taking one's own temperature is an activity of only about 11 in 20 of that age. Both activities increase from the incidence reported by nines. Interestingly, 10 in 20 nines do report

See Table 3.4, p.133

TABLE 3.4

CARE OF PERSON ACTIVITIES DONE WITHOUT HELP
EXERCISE 200 019

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Baby Sat	9	51	47	56						56		46				55		43					
	13	38	76		86		71	90	65	76	83	70	71			86	75					85	89
Taken Own	9	34				30	37	32		27		29				42						42	
Temperature	13	54	49						41	31	59	41	40	42		63	41						

that they have babysat but only 7 in 20 of them have taken their temperature. It appears that babysitting becomes a somewhat universal activity of the teens.

Demographically, when the parental education level is postsecondary, the incidence of both activities is above age averages while parental education of less than the high school level has activity incidences below age average in some instances. Except for babysitting among nines, blacks are generally below age averages while whites are above. Perhaps this is a function of difference in family sizes with blacks having more older children in families to do these activities. The incidence of babysitting is above age average for female thirteens but below for taking one's temperature. Males evince the opposite pattern. It appears that the male doctoring stereotype appears by thirteen. Subjects from the southeast generally fall below their age averages but other differences are too spotty to be worth note. The spotty community differences show weak relation to the socioeconomic differences noted with regard to parental education.

Homemaking

Changing sheets on beds and washing dishes and windows are household chores reported by from 18 to 19 in 20 of the thirteens. All three of these activities show developmental change with the bigger chore of changing sheets on beds showing the biggest gain from nine to thirteen. Ironing clothes seems to be a chore developing even more slowly with the incidences being 11 in 20 among nines and 16 in 20 among thirteens. Worry about children dealing with hot irons must keep this from becoming a chore of the nines for a bit.

See Table 3.5, p.135

TABLE 3.5

HOMEMAKING ACTIVITIES DONE WITHOUT HELP
EXERCISE 200 019

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Changed Sheets on a Bed	9	74				69	68	79		85	72						82				81		
	13	91		94		88	84	96		94	90			94									
Ironed Clothes	9	57	62			51	42	73	67	76	53						69						48
	13	79					60	97		94	76						90				84		
Washed Dishes	9	84			87	80	74	94															78
	13	93		96		91	87	99															
Washed Windows	9	78					76	81				76				81	72			82			
	13	91					89	93															

Demographically, the incidences of homemaking chores don't relate to parental education level or type of community to any marked degrees. However, the incidences of changing sheets on beds and ironing clothes are higher than age averages among blacks and less among whites. It appears that blacks do get these opportunities for independent action earlier than their white counterparts. The sex stereotype is present throughout the data. Females do homemaking chores in incidences above their age averages while males fall below them. The incidences of changing sheets on beds and of washing dishes are below age averages in the northeast region. It appears that youths in that region don't get as many opportunities as do youths from other regions to do homemaking tasks which can have avocational and vocational implications.

Cooking

About 12 in 20 of the thirteens have baked a cake or pie while 11 in 20 of them have cooked a complete meal for the families. There is a marked change in the incidence of both activities from nine to thirteen. The gain goes from about 5 in 20 to 10 and more in 20.

See Table 3.6, p.137

Both of these activities relate to parental education. The postsecondary level of parental education is associated with higher than age average incidence. Sex differences are marked with females exceeding age averages and males falling below. Blacks are above average in cooking a complete meal but below in baking a cake or pie. Whites are the reverse. The higher incidences of cooking seem to be in the west. Community differences are not very evident except for the surprising fact that the incidence of cake and pie baking is below age average in the extreme rural sections.

TABLE 3.6

COOKING ACTIVITIES DONE WITHOUT HELP
EXERCISE 200 019

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Baked Cake	9	33					20	45				29		23		39		25					
or Pie	13	62	54	68	67	58	38	85	54	52	65	52				68		54				71	
Cooked Com-	9	27		33			21	34		34	26	22		19		33							
plete Meal for Family	13	53	46				31	74	43			42				59							

Sewing

About 7 in 20 nines and thirteens have knit by themselves but only 6 in 20 thirteens have made clothes for themselves and only 3 in 20 nines have done so. This latter incidence among the nines is higher than age average among blacks and lower among whites. As might be expected, females are very much above age averages in these activities and males very much below. Differences associated with parental education, region, and type of community are neither regular nor marked except for the uniform lower than age average incidence in extreme rural regions.

See Table 3.7, p.139

Gardening

Planting vegetables and flowers has become fairly universal with 16 in 20 nines and 17 in 20 thirteens reporting the activity. The activity appears in higher than age incidences among whites, and among postsecondary levels of parental education and urban fringe areas. It seems to be an experience which such persons make it a point to see that their children have.

See Table 3.8, p.140

Communicative Activities

Table 3.0 indicates that shopping at a store, using a card catalogue in a library, writing a letter, and making a report have reached an incidence of

See Table 3.9, p.141

TABLE 3.7

SEWING ACTIVITIES DONE WITHOUT HELP
EXERCISE 200 019

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Knit	9	37					24	51										28					
	13	35		31		40	11	58	24									25					
Made Clothing for Self	9	17					11	23	28	25	15						25						10
	13	28					7	47	18			22	18			31		19	25			38	

TABLE 3.8

GARDENING ACTIVITY DONE WITHOUT HELP
EXERCISE 200 019

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Planted Vegetables or Flowers	9	79								71	81	74			84	84	72					87	
	13	85		81							86	78											

TABLE 3.9

COMMUNICATIVE ACTIVITIES DONE WITHOUT HELP
EXERCISE 200 019

ctivity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
rdered rom a atalogue	9	33			29		38	27				28				40		22					
	13	49					56	42															
hopped at Store	9	74	65						63	63	77	70				83		54					86
	13	96	92			97				91	97	90				98							
sed Card atalogue n Library	9	68							51	58	71	61		78		76		51				76	77
	13	91							76	84	93	85	80			95				94		96	95
ritten a etter	9	86	81				83	89	72	79	88	81			90	92	79	80				90	90
	13	97					95	99	91	93	98	93				98	92					99	
ritten a eport	9	74	66		78				56	54	79	67	64			84	59					82	83
	13	95			98				87	89	96	90				96	91					97	

18 in 20 or more among thirteens. Writing a letter is also done by 17 in 20 nines while shopping in a store and writing a report without help are only found in 15 in 20 nines. Thus writing a letter without help among these communicative activities seems well developed among nines and thirteens, and shopping at a store, writing a report, and using a card catalogue in a library without help are activities which do develop from nine to thirteen. Ordering from a catalogue without help is a communicative activity which isn't nearly as well developed in either age group as are the other four communicative activities. Ordering from a catalogue without help is found among 6 in 20 nines and 10 in 20 thirteens.

Demographically the incidences of these communicative activities evince strong relationship to socioeconomic status and less of a relationship to sex. In all five activities, incidences are above age averages when the parental educational level is that of postsecondary education. Generally, a parental educational level of less than high school graduation is below the averages. With regard to ordering from a catalogue and writing a letter without help, males are above age averages in the former and below in the latter while females show the reverse pattern in each activity. Blacks uniformly fall short of age averages in all but ordering from a catalogue without help in which case they are at age averages. Whites uniformly exceed age averages in these activities except in the latter one too. The southeast region has incidences of shopping at a store without help and writing a letter and a report which are below age averages. The other regional differences are sporadic. The high socioeconomic sectors of metropolitan areas and the urban fringe have incidences of shopping at a store, using a card catalogue in a library, and writing a letter and a report which are above age averages. The low socioeconomic sectors of metropolitan areas and extreme rural areas have incidences below age averages.

Technological Activities

The technological activities are further subdivided into activities dealing with (a) maintenance, (b) construction, and (c) innovation.

Maintenance

The incidences of responses to items dealing with a maintence of technological products are reported in Table 3.10. This table indicates that drawing a map, painting some object other than a picture, putting batteries in a flashlight, setting the time on a clock are activities which are performed without help by 17 in 20 or more of the thirteens. In addition, putting batteries in a flashlight is an activity done without help by 18 in 20 nines while painting an object and setting the time on a clock are done without help by 16 in 20 nines. Drawing a map is only done by about 11 in 20 nines without help. Hence painting objects, putting batteries in a flashlight, setting the time on a clock, and drawing a map without help seem to develop in that order. Repairing a bike, wagon, or skates is an activity which is done by as many as 12 in 20 nines and 16 in 20 thirteens. Hence it seems to come in a little ahead of drawing a map without help but not to mature as far in the next four years.

See Table 3.10, p.144

Demographically, the postsecondary level of parental education is rather frequently associated with higher than age average incidence. Except in drawing a map in which case sex differences don't appear, males are ordinarily above their age averages in incidence in these technological maintenance activities while females fall short of them. Similarly, whites largely exceed

TABLE 3.10

TECHNOLOGICAL (MAINTENANCE) ACTIVITIES DONE WITHOUT HELP
EXERCISE 200 019

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Drawn a Map	9	57								48	58	49				67	46						
	13	84		81					71	75	87	73				89	72		88				
Painted Some Object	9	80	74		84		83	77	69	71	82	75	68			86	72	72					
	13	91					94	88	84	83	93	85				94							
Repaired Bike, Wagon or Skates	9	63					75	50				58				69							
	13	80					95	65		72	81	74											
Set the Time on a Clock	9	78	72				81	75	71	69	80	70				89	70	66					83
	13	97			98					92	97	92				98			98				98
Put Batteries in a Flashlight	9	91					93	88	86	83	93	88				94	84	86					96
	13	98			99		99	96				96											

age averages in all five activities while blacks fall short of them. Regional and community differences are too sporadic to merit comment except for the fact that the southeast and low socioeconomic sectors of metropolitan areas and extreme rural areas are frequently associated with incidences lower than age averages while the Central region occasionally associated with incidences higher than age averages.

Construction

Table 3.11 indicates that the incidences of construction type of technological activities are below those for the maintenance type of activities.

See Table 3.11, p.146

However, the three construction type activities on which subjects reported show incidences of 12 to 13 in 20 among thirteens. Building something out of wood is already present among 12 in 20 nines so it shows little development. However, the incidence of carving something from wood or soap is only 9 in 20 among nines while 10 in 20 nines have made a toy. Hence these two activities show a small developmental change from nine to thirteen.

Demographically, the former pattern evident with technological maintenance activities appears among their constructive aspects. The postsecondary parental educational level goes with higher than average incidences at the several ages. Males exceed age averages and females fall short of them. Whites exceed age averages and blacks fall short of them. Sometimes subjects from the southeast or from low socioeconomic sectors of metropolitan regions or extreme rural regions have incidences below their age averages.

TABLE 3.11

TECHNOLOGICAL/CONSTRUCTION ACTIVITIES DONE WITHOUT HELP
EXERCISE 200 019

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Built Something out of Wood	9	62			59		80	45	45	55	65	56				70	54	57	68				
	13	65				61	89	43		53	68	59		52		70					57		
Carved Something from Wood or Soap	9	54	49		57		62	47	40	44	57	47				64	41	43	58				
	13	67	57		71		74	61	55	49	71	59		55		72	57				61		75
Made a Toy	9	49					60	38				42				58							
	13	58	52		63		64	53	51	51	60					61							

Innovations

Table 3.12 reports the incidences of innovative activities which are done without help. About 15 in 20 nines and thirteens have designed something without help and about 13 in 20 nines and thirteens have invented a game without help. Although the differences in incidence in the two age groups are negligible, incidence is increasing in the design of something to make while it is decreasing in the invention of a game. There may be a swing in the social acceptance of these two types of activities around these ages.

See Table 3.12, p.148

Sub-group differences are present but not uniform. Postsecondary parental educational level is associated with higher than age average incidences in both ages for both activities. However, its only in inventing a game that sex differences appear with males being above age averages and females below. Race differences are not uniformly present. The southeast does generally have incidences below age averages. However, community type differences are not uniform.

TABLE 3.12

TECHNOLOGICAL/INNOVATIVE ACTIVITIES DONE WITHOUT HELP
EXERCISE 200 019

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Designed Something to Make	9	73	68									69	65		77	77		67					79
	13	75	70		80					66	77					78							
Invented a Game	9	67					70	64				62				71		57	70				
	13	64	59				68	60								69			60				70

Summary

Developmentally, the following activities have an incidence of 15 in 20 or more among thirteens with the approximate gains in incidences from the nines as indicated:

Activity	Incidence Change from Nines
1. Personal and family living activities	
a. Care of persons (2 activities in all)	
Babysat	6 in 20
b. Homemaking (4 activities in all)	
Changed sheets on a bed	3 in 20
Ironed Clothes	4 in 20
Washed dishes	2 in 20
Washed windows	3 in 20
c. Cooking (2 activities in all)	-
d. Sewing (2 activities in all)	-
2. Communicative (5 activities in all)	
Shopped at store by self	4 in 20
Used card catalogue in library	5 in 20
Written a letter	2 in 20
Written a report	4 in 20
3. Technological	
a. Maintenance (5 activities in all)	
Drawn a map	6 in 20
Painted an object	2 in 20
Put batteries in a flashlight	1 in 20
Repaired a bicycle, wagon or skates	3 in 20
Set time on a clock	4 in 20
b. Construction (3 activities in all)	-
c. Innovations (2 activities in all)	
Designed something to make	0 in 20

The above table indicates that babysitting and other homemaking chores are fairly universal among thirteens and show gains from incidences among the nines in relation to the presumed danger and difficulty associated with exercise of the responsibility. Communicative activities tapped are also pretty universal with those involving higher cognitive levels being the ones which show the greatest gains from incidences of the nines. Among technological activities, maintenance activities covered are all universal among the thirteens with those requiring greater cognitive development being those which gain most from the incidences of the nines. Construction types of technological activities are not universal among the thirteens but at least designing something to make reaches the level among the two innovative activities. It appears then that cognitive development and safety and size concerns determine the amount of development in these personal, communicative, and technological activities of a career and occupational development nature.

Demographically, there are certain patterns which tend to repeat themselves in these activities. A parental postsecondary educational level frequently leads to higher than age average incidence of an activity. Males usually have higher than age average incidence of traditionally male activities and below average incidences of traditionally female activities. Females evince reverse patterns. It appears that we still have a long way to come if we care to erase sex stereotypes in these types of activities. Blacks usually fall short of age averages in incidence of these activities and whites tend to exceed age averages except in homemaking activities in which cases blacks sometimes have responsibilities before whites of similar ages. The southeast region and the low socioeconomic sectors of metropolitan regions as well as extreme rural regions frequently have incidences of these activities which are below age averages. However, these differences are not as frequent as are the parental educational, sex, and race differences.

Chapter 4 *

POSSESS SKILLS THAT ARE GENERALLY USEFUL IN THE WORLD OF WORK

.10 Have Generally Useful Numerical Skills

(9 exercises:
301 005: 13, 17, A
301 010: 13, 17, A
301 011: 13, 17, A
301 034: 9
301 014: 13, 17, A
301 033: 9
301 014: 13, 17, A
301 035: 9
301 014: 13, 17, A
301 019: 13, 17, A
301 032: 13, 17, A)

Most models of career and occupational development recognize that the work aspect of career involves a transaction between what individuals can do and what others want who are willing to pay for the provision of such capabilities. Numerical skills are widely applicable in work and therefore constitute an exceedingly interesting area in which to gauge societally valued development among the nation's youths and young adults.

The National Assessment of Educational Progress released nine numerical skill exercises which offer data along with exercise content for furthering the understanding of numerical skill development in career development. We reorder these nine exercises here to make their content more homogeneous and in order to present them in terms of increasing difficulty.

.11 Reasoning With Numerical Data Presented in a Display

.111 Reading Table of Shoe Sizes (301 019: 13, 17, A)

In this exercise a table is presented for six classes of shoe sizes and the sock size is designated for each class. The subject then indicates the sock size for a shoe size designated within one of the six classes of shoe sizes.

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* Sections .10, .20, and .30 of Chapter 4 were written by David V. Tiedeman; Sections .40, .50, and .60 by Martin R. Katz

The percents of correctly identified sock sizes are presented for thirteens, seventeens, and adults in Table 4.11. The table indicates that the percents of an age group correctly reading the sock size table is relatively high among the thirteens (13 of 20 answer correctly) and jumps to 17 of 20 for the seventeens, remaining at that level for adults.

See Table 4.11, p.153

Table reading also has sub-group dependency. For instance, respondents whose parental educational level included high school and beyond were above the national average at practically all age levels while respondents from families with less parental education were below their age averages in all cases.

Females exceeded males in most age categories. These sex differences were slightly larger among the thirteens than among the seventeens and adults. It appears as citizens age that both men and women become reasonably similar in reading sock sizes.

Blacks and whites also differ markedly from national averages for their ages in this skill with whites exceeding the nation's averages and blacks falling below them. However, it appears that blacks continue to grow in this skill beyond seventeen more than whites do.

Respondents from the southeast region fall short of national averages at all age levels while those from the central region exceed those averages in two of the three age groups.

These cultural differences also appear among the data for size and type of community. Respondents from low socioeconomic areas in metropolitan districts fall short of age averages.

TABLE 4.11

IDENTIFIED SOCK SIZE CORRECTLY FROM TABLE
EXERCISE 301 019

	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Correct	13	67	58		74		62	71	48	44	72	42	38	59		79	56						78
	17	86	78		90		84	88		55	90	66	74	77	83	93	73						94
	Adult	87	81	91			86	89		65	90	59	78	83	93	96	68					92	98

.112 Reading a Bar Graph (301 005: 13, 17, A)

In this exercise the number of trees planted along a highway are graphed for each of five days of a week. Three questions ask the respondents to identify the number of trees planted on each of the last three days of the chart. Table 4.12 indicates both the percents of subjects who failed to report any of the three numbers correctly and those who reported all three correctly. Speaking generally, the table indicates that relatively few of the respondents failed to read any of the three numbers correctly and that accurate bar graph reading was exhibited by one in three of the thirteens and as many as one in two of the seventeens with performance falling off five percentage points among adults and being markedly lower (15 in 20) among the out of school seventeens.

See Table 4.12, p.155

The table also identifies several variations from the table reading profile provided for the nation as a whole. For instance, respondents whose parents' educations were short of graduation from high school were generally below the national average in table reading accuracy while respondents from families whose parents went beyond high school in their education were generally above age averages. As might be expected, the picture for the percents of students who failed to identify any of the planting averages correctly was the mirror image of this picture but more variably so since the national averages were in general quite low for inaccuracy.

There are relatively few sex differences in table reading of this nature. Only the adults showed marked variation from national averages among males and females. Males were higher and females lower than national average in this

TABLE 4.12

READING NUMBERS OF TREE PLANTINGS FROM A BAR GRAPH
EXERCISE 301 005

	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
None	13	3				2			9	9	2	7				1	7					0.4	1
Right	17 all	1	3							5	0.4		8			0.2					0		
	17 in	1								4	0.4		5			0.2					0		
	17 out	6																					
	Adult	4								12	2	17	6		1	1	8						0
All Three	13	33	25						19	8	38	17	22	21		42	14					43	50
Right	17all	51	45		58					25	54	40	37	37		58	37						64
	17 in	52			59					28	55		39	40		58	39						65
	17out	26																					
	Adult	45	36		52		52	39	30	23	48	32	31	37	52	57	25						59

instance. However, there are numerous racial differences in this kind of performance. In general, blacks score lower than national averages and whites higher than national averages at most ages except for out of school seventeens where the difference doesn't exist. In general, blacks are about 25 percentage points lower than the national average and whites about 3-5 percentage points above that average.

Several regional differences also appear. Respondents from the southeast are below national average in 3 of the five comparisons and those from the central region are above national average in an equal number of instances. The other apparent differences appear between the low and high socioeconomic areas within metropolitan areas of 200,000 or more population. As might have been expected, respondents in low socioeconomic circumstance in metropolitan areas score below the national average and those from high socioeconomic circumstance in metropolitan areas score above national average. This is true of all differences except for the out of school seventeens. It appears that once this group is identified as being seventeen and out of school, table reading accuracy doesn't vary by parental education, sex, race, region, or size and type of community.

.113 Reading a Floor Plan (301 010: 13, 17, A)

This exercise depicted the floor plan of a connected office and shop. Three questions required the respondents to read the dimensions of walls and to record lengths in two cases, both of which required subtraction of one measurement from another overall measurement. The remaining question required multiplication of the first two numbers to determine the floor area of the office.

The data for this exercise are again reported in terms of those who failed to record any right answers and those who reported all three answers correctly. However, in this latter instance, a third derived score is also reported in order to include in the interpretation of accuracy everyone who had the right idea even though that idea might not have been carried to full conclusion of identification of units associated with the numbers. This latter score is indicated in the third panel of data in Table 4.13.

See Table 4.13, p.158

The age data for accuracy (except for units) in general approximates those for reading a bar graph for the seventeens as a whole and both in and out of school. In general, about 10 in 20 of the seventeens in school accurately reason from a floor plan while only 5 in 20 out of school do. However, the data for thirteens and adults are generally about ten points lower (27 and 37 percents, respectively). The data suggest that this again is a skill which reaches its peak towards the end of schooling and then recedes in accuracy as it is not used as much.

Reading a floor plan proved to be a skill in which a markedly larger percentage of respondents failed to answer any of the three items correctly. These data again display the same U shaped age distribution which occurred with the accuracy data. However, the U is inverted from its orientation for the accuracy data. As many as 8 in 20 of out of school seventeens fail to get any of these items correct. This percent is only slightly higher than that for the in school thirteens.

The demography of these table using skills shows a remarkably close pattern to that for the reading of a floor plan. For instance, in terms of

TABLE 4.13

NUMBER OF CORRECT READINGS OF A FLOOR PLAN
EXERCISE 301 010

	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
None Right	13	36	46			26	29	42	54	67	30	53	57			25	69						14
	17 All	12	23		7		7	16		43	8	29	28	21		6	29						5
	17 in	10	19		6		5	15		39	7	27	20	17		5	24			6			4
	17 out	39																					
	Adult	16	26		12		10	23	36	50	12	45	26	26	11	5	38						5
All 3 Exactly Right	13	23	14			31	26	20		2	26	12	4	10		33	8						38
	17 All	45	37		52		51	38		13	49	23	29	31		53	21						
	17 in	47	39		54		53	40		14	51	24	31	34		53	24						
	17 out	21																					
	Adult	32	23				39	26		10	35	18	23	25	37	41	13						
All 3 Approx. Right	13	27	17			35	30	23		4	30	15	7	15		37	10						44
	17 All	51	43		59		59	43		18	55	28	34	34		59	28						
	17 in	53	46		60		61	45		20	57	30	37	38		60	32						
	17 out	23																					
	Adult	36	25		40		44	29		12	39	18	26		40	46	19		39				

accuracy, the out of school seventeens fail to show any sub-group variations in the percents demonstrating skill mastery. However, respondents from parents with a high school education are at the averages of their age groups while those with less parental education show less table reading skill and those with parents who went beyond high school show more table reading skill. Males and females show consistent differences in all but the out of school seventeen group. Males are generally above the average for their age group; females below. Blacks and whites also differ as before, blacks being below national averages at each age and whites above. Regional differences also exist as before but more pronouncedly so. The southeast region consistently has respondents below national average and the central region has respondents above those averages. Finally, respondents from low socioeconomic circumstance in metropolitan regions are consistently below age averages as in the preceding exercises but respondents from high socioeconomic circumstance in metropolitan areas are not as consistently above average as in that exercise. The data for inaccuracy generally demonstrate the mirror image of the reported pattern.

.114 Summary: Numerical Reasoning from Displayed Data

The data from all three of these exercises shows remakable similarity in patterning from the simplest to the most difficult of the exercises. In general, percents of students mastering these skills increase from thirteen to seventeen years of age and then the skill either begins to decline in availability among the United States citizenry if the skill is not used or to remain the same or to increase slightly if it is a used skill such as table reading with regard to clothes sizes. Surprisingly, except for simple reading of clothes sizes where as many as 17 of 20 Americans can read such tables even as adults, numerical reasoning skills are available to only as many as 10 in 20 U.S. citizens only at age seventeen, neither earlier nor later.

Marked sub-group differences in table reading skills appear in these percents throughout these data. Most notable are those differences which are socioeconomically linked. Respondents from families with more education master this skill in larger percentage than do those from families with less parental education. Larger percentages of whites than blacks have mastered these skills. Respondents from the central region of the U.S. have mastered the skill in larger proportion than those from the southeast region. Percents of respondents from low socioeconomic status in metropolitan regions are generally below the percents for their age groups while those from high socioeconomic areas in those districts are above their age averages.

Sex differences also appear in the demonstrated mastery of this skill. In general females exceed males in table reading involving clothes while the reverse is true in the two exercises involving the reading of tables having to do with the planting of trees and the computation of lengths and areas.

.12 Conversion from One Scale to Another

The NAEP included five exercises in which the ability to convert one scale to another was sounded out in each of the age groups. One of these questions merely involved the conversion of fractions into decimals. In others, conversion from ounces to pounds, seconds to minutes, and inches to feet were required with reverse conversion being required in another of the items in each case of these conversion types.

.121 Identifying Which of Four Fractions Exceeds a Stated Decimal (301 011: 13, 17, A)

In this exercise one of four fractions had to be selected as larger than .75. Of the available options, two were smaller, one equal, and one larger.

Table 4.14 reports the results of this exercise for the three groups in which it was administered.

See Table 4.14, p.162

The Table indicates that about 11 in 20 of the thirteens selected the correct option while as many as 15 in 20 of the seventeens and adults did so. The increase was about 20 percent from the thirteens to the seventeens and the capability leveled out at that point.

Educational, sex, race and socioeconomic differences appeared in a pattern similar to that for the data on numeric reasoning with displayed data. That is, respondents from homes with parents who graduated from high school or went beyond correctly answered this item in higher proportion to those with parents of less than high school education in each age group. Males were correct in higher proportion to females as were whites to blacks in each age group. In addition, respondents from the southeast region were lower than the average for their age group while those from the central region were generally higher. Finally, respondents from low socioeconomic areas of metropolitan regions generally failed to answer this item correctly in proportion below their age group average while those from higher socioeconomic areas of metropolitan regions exceeded age group averages.

.122 Conversions of Weight, Time, and Measure
(301 014, 301 033, 301 034, and 301 035: 9, 13, 17, A)

One exercise administered to thirteens, seventeens, and adults asked for conversion of weights, times, and measures. In each case conversion was reversed in a pair. That is, seconds had to be converted to minutes and minutes to seconds. One of the exercises in each pair contined an even multiple

TABLE 4.14

IDENTIFIED LARGER FRACTION CORRECTLY
EXERCISE 301 011

Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
		SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
13	57	47		63	63	61	53	41	27	62	36	35			68	35			43			73
17	77	68				84	69		47	81	57	58	67	73	86		86					87
Adult	73	62		79		82	65	52	40	78	42	58		78	89	47						92

of the basic conversion while the other required a decimal conversion. For instance, one exercise read 1 minute = ____ seconds while its counterpart read 45 seconds = ____ minutes. Each of three cohorts of nine year olds were also tested on each of these conversion pairs. Since exercises were identical for the nines in each case, data for the nines are reported with those for the thirteens, seventeens, and adults in their appropriate subsection tables.

Table 4.151 reports the data for both the conversion of 1 minute to seconds and of 45 seconds to minutes. The data indicate that as many as 14 in 20 of the nines know that one minute equals 60 seconds. This knowledge then rises rapidly with as many as 19 in 20 or more of the thirteens, seventeens, and adults knowing this fact. It is interesting to note, however, that the availability of this definition doesn't necessarily mean that respondents are able to put that knowledge to work in converting 45 seconds into a fraction of a minute. Practically none of the nines exhibit such a skill. However, by the time subjects get to be thirteen, 4 in 10 can do so, and at seventeen 3 in 4 can do so. That ratio declines just slightly among adults.

See Table 4.151, p.164

The by now fairly characteristic imprints of parental education, sex, race, region, and socioeconomic status on numeric skills, also have their effects on the proportions of subjects who make these conversions accurately. Subjects with parents of more than high school education exceed their age averages; those from families with less than high school education fall below their age averages. Males exceed age averages; females don't. Whites do; blacks don't.

TABLE 4.151

CONVERSIONS OF SECONDS AND MINUTES
EXERCISES 301 014 AND 301 033

Correct Conversn.	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
1 min. = __ sec.	9	72	60			79	75	68	50	37	80	66	58			79	33					81	88
	13	95					96	93		79	97	89				97	88					97	99
	17	98	94		99					90	99	89	94			99	90	99				100	
	Adult	96	94				98	95		86	98	80	94		98	99	87					99	99
45 sec. = __min.	9	3	1				3	2	0.1	0.3	3		0.2			4	0.4						
	13	40	27				44	36	22	11	46	25	25	25		52	21						56
	17	72	59		78		77	67		33	78	53	49	56		80	53	82					83
	A	74	62			79	82	66	50	42	78	57	61	63	78	89	50						89

Subjects from the southeast region generally fall below their age averages but the central region doesn't consistently exceed age averages as in other numeric skills data. Finally, subjects from low socioeconomic areas of metropolitan regions fall below age averages while those from high socioeconomic areas in such regions fall above age averages.

Table 4.152 reports the data for both the conversion of 2 feet into

See Table 4.152, p.166

inches and of 30 inches into feet. Only about 10 in 20 of the nines report the basic conversion accurately. However, this proportion rises to 17 in 20 for the thirteens and then a little higher to about 19 in 20 for the seventeens, falling back to only about 18 in 20 among adults. The data for the conversion of 30 inches into a fraction of feet parallel those for the similar conversion of 45 seconds to minutes. However, with what logically seems to be a slightly more difficult conversion as many as 1 in 8 of the nines prove able to make this conversion. The rise for the thirteens and seventeens parallels the rise for the former conversion. However, adults don't hold up as high in this conversion; they drop as many as 6 percentage points from the seventeens in this case while there was actually a slight gain of the adults over the seventeens in the former case.

Once again the now almost regular dependence of this skill on parental educational, sex, race, region, and size and type of community appear with the slight exceptions that sex differences fail to appear in the fractional conversion among the nines, thirteens, and seventeens and subjects from the northeast region, rather than from the central region, excel in this fractional conversion.

TABLE 4.152

CONVERSIONS OF FEET AND INCHES
EXERCISES 301 014 AND 301 034

Correct Conversn.	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
2 feet = __inches	9	47	37				51	43	31	19	54	39	33			62	24						65
	13	85	80				90	80		52	91	71		76		92	64		89				95
	17	94	90		96		96	92		74	96	85	87	87		97	82	97					97
	Adult	92					96	88	73	69	95	76	87	87	96	97	78						98
30 inches = __feet	9	13				17				4	15	9				18	5						20
	13	43	33						32	19	47	28	31	32		51	29					57	51
	17	69	61			75			43	39	73	45	53	54		76	49						79
	A	62	54			68	68	57	46	35	66	31	50	54	67	77	40						79

Table 4.153 reports the data for both the conversion of 16 ounces

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See Table 4.153, p.168

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to pounds and of 1½ pounds to ounces. The data indicate that only as few as 6 in 20 of the nines know this conversion. However, the fact becomes common knowledge among as many as 16 in 20 of the thirteens and about 18 in 20 of the seventeens and adults. This is once again a skill which continues to hold up and even increase a little in adults from use. The fractional conversion of pounds to ounces is low among the nines (2 in 20) but increases to 13 in 20 of the thirteens and then on to about 17 in 20 of both seventeens and adults although the adults are once again still a little higher than the seventeens. Weight conversion seems to be a skill needed in adult life since it doesn't regress.

Interestingly, the common sub-group pattern is broken in the knowledge that 16 ounces equal a pound. Postsecondary parental education still makes a difference. Whites are still above their age averages while blacks are below. However, sex differences aren't uniform in all age groups and regional differences are spotty with the southeast this time being at age averages in most instances. Furthermore, small and extreme rural communities have subjects who exceed age averages.

However, the common sub-group pattern does generally appear when fractional conversion of the basic weight equivalency of pounds and ounces has to occur. This is largely true of parental education, race and size and type of community. However, the exceptions noted above for the basic definition do appear in the fractional conversion. Sex differences aren't as marked, the southeast doesn't always have a depressed average and small and extreme rural

TABLE 4.153

CONVERSIONS OF OUNCES AND POUNDS
EXERCISES 301 014 AND 301 035

Correct Conversn.	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
16 oz. = __ lbs.	9	29		22		38	34	25	16	14	33	25				35	9		37	21			
	13	81			85					55	85	68	71			87	66		86				
	17	89					91	87		74	92					91	80	94					
	Adult	93	88						77	77	95	68	89			97	81						
1½ lbs. = __ ounces	9	11				17	14	8	5	2	13	8	6			17	2						19
	13	68			72					32	74	48	57	61		76	43		74		57		77
	17	83	79		86		85	81	71	56	87		74	76		88	67	92	86				
	A	86	79						61	60	90	53	81		89	93	67						92

communities have subjects able to make the conversion in larger than age average proportions.

Table 4.154 reports the number of subjects who made all six conversions correctly. These data indicate that these skills which seem to have reached near universality among seventeens and adults in single instances really aren't as completely fixed in the age groups as single instances suggest. However, 5 in 20 of thirteens and 10 in 20 of seventeens and adults get all six of these conversion exercises correct. The table does indicate that there is marked regression in this skill among out of school seventeens.

See Table 4.154, p.170

Surprisingly, significant sub-group differences only appear for adults among these data. However, those differences which are there are within the so far developing pattern for numeric skills.

.123 Summary: Conversion from One Scale to Another

The data from all five of these exercises once again show remarkable similarity in patterning from the simplest to the most difficult of the conversion exercises. In general, percents of subjects mastering these skills increase from age nine to adult years. However, these data show some variation from those dealing with numerical reasoning from displayed data. In this instance, time and weight conversions seem to remain with adults while measure conversions don't.

The sub-group patterning among these data proved to be highly similar to that among the display reasoning data. Subjects from homes where parental

TABLE 4.154

NUMBER OF CONVERSIONS CORRECT
EXERCISE 301 014

	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
ll Six ight	13	25																					
	17all	54																					
	17 in	57																					
	17out	22																					
	Adult	52	43				59	45	31	21	56	20	37	43	56	70	26						72

education had been beyond high school generally exceeded age averages; those from homes with less than high school education fell short of those averages. Males tended to exceed age averages while females didn't. Whites tended to exceed age averages while blacks didn't. The central region tended to exceed age averages while the southeast tended to have subjects who answered exercises correctly less than the national averages for their ages. Subjects from low socioeconomic areas in metropolitan regions fell below age averages; those from high socioeconomic areas in those regions exceeded age averages. In the case of the basic equivalency of 16 ounces equaling one pound, many of these differences washed out and subjects from extreme rural and small communities occasionally exceeded the averages for their ages.

.13 Calculating

.131 Calculating Amount of Finance Charges Paid in a Two-Year Period (301 032: 13, 17, A)

The third type of numeric career relevant skills which was assessed required calculation of the amount of finance charges required in the purchase of an article on which 24 monthly payments were paid of a fixed amount and for which the original price of the article was specified. Data on the accuracy of this calculation are summarized in Table 4.16.

See Table 4.16, p.172

The accuracy of this calculation proves to be one in which skill advances from presence in about 2 in 20 thirteens to 10 in 20 seventeens and even on to 13 in 20 of the adults. Working with finance charges seems to be a skill active among adults. However, it is interesting to note that as many as 7 in 20 adults still fail to calculate finance charges correctly. This failure rate rises to about 14 in 20 among the out of school seventeens.

TABLE 4.16

CALCULATING FINANCE CHARGES PAID
EXERCISE 301 032

Category	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Correct	13	11		16	8					1	13		5		9	15	6						20
	17all	48								21	52	24	34	41		53	33		54				
	17 in	50								22	53	26		42		53	34		55				
	17out	30																					
	Adult	66					69	63	42	41	70	45	55	56	74	76	43						77

Except for sex and region, sub-group imprint on this skill tends to follow the now fairly well established pattern for numeric skills. Post-secondary parental education is associated with above average age performance and less than high school parental education with below average age performance. Only among adults does the usual pattern of males exceeding the age average and females falling short appear. At the other age groups, males and females have common age performances. However, whites exceed age averages uniformly while blacks fall below them. Also subjects from low socioeconomic metropolitan areas fall short of age averages while those from high socioeconomic areas in those regions exceed age averages.

.14 Summary: Numeric Skills

Numeric skills considered of relevance to career and occupational development evince developmental patterns in the three assessed areas. In the area of reasoning numerically with the aid of displayed data, the simple skill of determining a sock size from a shoe size chart exists in 13 of 20 thirteens and advances about 20 percentage points among the seventeens where it levels out. On the other hand reasoning with data from a bar graph and a floor plan exists in complete accuracy in only about 6 in 20 of thirteens and advances about 20 percentage points among the seventeens and falls off among adults, markedly in the case of the floor plan.

The developmental pattern for conversions from one to another metric is different. The straight conversions in each case starts with about 14 in 20 of the nines being able to record 60 seconds as the equivalent of a minute, falls to 10 in 20 for the conversion of feet to inches, and as low as 6 in 20 for conversion of ounces to pounds. On the other hand the gains from nines to thirteens are in reverse order with the thirteens showing phenomenal advance over the nines in the conversion of ounces to pounds. On the other hand, there is little more uniformity in the percentage age changes in conversion skill when conversions involved fractional values. In this case, the skill was generally found in relatively few nines, increased about 40 percent among the thirteens, another 25 percent among the seventeens and decreased slightly for adults except for ounces and pounds conversions in which adults gained over seventeens.

The developmental pattern for the finance charge calculation had its own characteristic shape. It started among only 11 percent of the thirteens, and increased by 38 and 17 percentage points from there to seventeens and adults, respectively.

With relatively few exceptions, the sub-group variability from age averages showed marked similarity throughout the data. In general, respondents from homes with post high school educational levels were above age averages while those from homes with less than a high school level of education fell below age averages. Males generally exceeded age averages; females fell short of them. There was a marked tendency for respondents from the southeast to score below age averages and a less marked tendency for respondents from the central region to score above age averages. Generally respondents from low socioeconomic areas of metropolitan regions were below age averages. The only variability which tended to appear in these patterns had to do with the conversion of pounds and ounces. In this case, small and rural communities also tended to exceed age averages.

.20 Have Generally Useful Communication Skills

(5 exercises:
3C2 005: 13, 17, A
302 010: 9, 13, 17, A
302 015: 9, 13
302 017: 17, A
302 020: 9, 13, 17, A)

Career and occupational development also involves the assimilation of communication skills which are generally useful at work. The National Assessment of Educational Progress released five communication skill exercises which offer data along with exercise content for furthering the understanding of communication skill development in career development. The five available exercises speak as follows starting with those skills that are more universally needed and available and going to those with more specialized applications and less universality.

.21 Follow Street Directions (302 010: 9, 13, 17, A)

One exercise presents a street map with streets laid out regularly on the north-south and east-west axes. Participants are verbally instructed to make three moves from a common starting point. They then mark the street intersection where they ended under presumed conformity with those instructions.

The percents of subjects who followed directions correctly are reported in Table 4.21. Following simple directions proves to be a communication skill which as many as 4 in 10 of the nines have achieved. This skill markedly gains by thirteen being represented in twice as many thirteens as nines. Further gains are made among the seventeens (14 in 20 correct) but the skill diminishes slightly among adults, falling among out of school seventeens to the same proportion as among thirteens.

See Table 4.21, p.176

See Table 4.22, p.179

is generally available early (10 in 20 of nines have it), embraces another quarter of the population at thirteen (15 in 20 have it), and becomes quite general at seventeen (18 in 20 have it), and almost universal among adults (19 in 20 have it).

The general use of the telephone tends to mute some of the ordinarily evident sub-group imprints on differentiated averages. For instance, participants from homes with a postsecondary level of education still exceed age averages in three of four instances but the high school or less differences don't exist to any marked degree. Furthermore, it is only in the young teens, when teenage females stereotypically preempt the telephone, that females exceed age average in this skill while males fall short of it. However, whites still exceed age averages in all instances while blacks fall short of same. Surprisingly, the southeast region exceeds age averages for nines and thirteens in this skill and the northeast region falls short of them. Low socioeconomic areas within metropolitan regions still lead to below average representation of this skill but the areas above age averages are more associated with the availability of telephones, i.e., in small places and in medium sized cities and the central cores of large cities.

The time data for this exercise are also interesting. Table 4.22 also reports the data for participants who located the correct number within the first minute of the exercise. These data show the growth curve evident in the Table. However, although there is solid advance in attainment of this skill on a facile basis from nine, to thirteen, to seventeen, and on to adults. the skill is now not as deeply universal as before with considerably longer time.

TABLE 4.22

FOUND CORRECT PHONE NUMBER
EXERCISE 302 020

Activity Completed	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Within 5 Minutes	9	49	56			43				39	51	41					29		58		33		
	13	76	82			69	74	78		60	79	62				80	54	87	84	83	59		
	17	90		86					79	78	92	73				92	76		94	96			
	Adult	96							85	84	98		92		98	99	84		98				
Within 1 Minute	9	19	29			13	16	22				15					9		24	28		13	11
	13	48	56			37	45	51		32	51	37					26		60		29		
	17	69					66	73		47	73		59	62		74	44		77	79			
	Adult	82	76				78	85	57	53	86	66	72		84	90	58						93

Speed in exercise of this skill is also, in some ways, differently related demographically to these data. Lack of high school education among parents again begins to yield below average performance for several ages. Females exceed age averages in all instances while males fall short on this skill. Whites exceed age averages in 15 of 20 instances while blacks fall short of age averages in those instances. But regional and community type differences remain pretty much as they exist when more liberal time is available for location of the desired phone number.

.23 Addressing an Envelope (302 015: 9, 13)

One exercise provided the outline of a stamped envelope and directed the subjects to record both a given return and a given delivery address on the envelope. Accuracy in the name, street address, and place was scored for both the return and the delivery addresses, making six units for complete accuracy in this skill.

Data for complete accuracy in envelope addressing are reported in Table 4.23. This skill in its entirety appears in as many as 10 in 20 of the nines and rises to between 17 and 18 in 20 of the thirteens. It thus appears to be pretty universal as early as thirteen years of age.

See Table 4.23, p.181

Sub-group differences from the general average for each age are about as observed in numerical data. Participants from families with educations beyond high school exceed age averages; those from families with less than high school education fall short of same. However, females markedly exceed age averages in this skill; males fall far short. Whites again exceed age averages; blacks

TABLE 4.23

CORRECTLY ADDRESSED AN ENVELOPE
EXERCISE 302 015

Activity Completed	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
All Six Parts Correct	9	49	40				38	59	37	28	53	43	36	38		60	25						59
	13	87	83				82	93		78	89	80	76			92	74						92

fall short. Participants from the southeast fall short of age averages. So do participants from low socioeconomic areas in metropolitan regions while those from high socioeconomic areas in those regions exceed age averages.

.24 Fill Out Order Blank (302 005: 13, 17, A)

One exercise depicted three items as they are ordinarily displayed in mail order catalogues. An order blank follows the display. Subjects must complete the order blank to order one of each of the three items.

We have already indicated how participants address items so we shall not trouble to attend to those types of data again in relation to correct writing up of the desired order. What proves interesting among the order blank data are those which epitomize following directions completely. Doing so involves creating a correct line for each of three items, obtaining the total cost of ordered items, looking up necessary shipping and handling charges and including them in the total amount which should be enclosed with the order. Such data are reported in Table 4.24.

See Table 4.24, p.183

Accurate determination of the amount of a three item order requiring addition of shipping and handling charges proves to be a skill represented among as many as 12 in 20 thirteens. The skill increases to representation among as many as 17 in 20 seventeens and 18 in 20 adults. The skill is found in only about 15 in 20 of the out of school seventeens.

With the exception of sex differences, sub-group differences in this clerical form of communication skill follow patterns found with numeric skills.

TABLE 4.24

COMPLETED AN ORDER BLANK CORRECTLY
EXERCISE 302 005

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Total Amount Determined Correctly	13	62	52			68	57	68		30	67	44	38	46		73	36				71		77
	17all	86	78		90		81	90		61	89	67	74	78		91	72						92
	17 in	87	81		90		82	91		64	90	66	77	80		91	76					91	92
	17out	74																					
	Adult	90	85		94		88	93	79	70	93	65	85		95	96	73		93			95	98

Postsecondary parental education goes with above age average performance. However with this skill, females exceed age averages; males fall short of same. Whites exceed age averages; blacks fall short of them. Participants from the southeast are below age averages; those from the central region generally above. Subjects from low socioeconomic areas of metropolitan areas are below age averages while those from high socioeconomic areas in those regions are above age averages. Participants from small places or urban fringes also now and again have percentages above age averages. Capability seems to go with use.

.25 Discussion Activities With Organized Groups Within the Last 12 Months (302 017: 17, A)

Discussion is an interpersonal communication skill included among the released exercises. Subjects were simply asked if, within the last 12 months, they had (a) participated in a discussion with an organized group such as a school, work or community group, (b) led a discussion of some organized group, and (c) given a speech or report to some organized group.

The percents of subjects who had engaged in none and all three of these activities during the past 12 months are recorded in Table 4.25. Only as few as 3 in 20 of the seventeens had not engaged in any kind of discussion with an organized group in the past 12 months while as many as 7 in 20 adults lacked any of those activities. On the other hand, only about 6 in 20 of both the seventeens and the adults had participated in all three kinds of these discussion activities during the past year. However, adults were actually below seventeens in this regard. It appears that the school provided opportunities

See Table 4.25, p.185

TABLE 4.25

NUMBER OF DISTINCT DISCUSSION ROLES PLAYED
EXERCISE 302 017

Number of Parts Correct	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
None	17	17					19	15				33	36	27		9		11					
	Adult	33					29	37	49	45	31	54	48	40	27	18							
All Three	17	31			36							14	20	25	25	41							
Roles	A	29					35	23		22	30	6	19	19	32	42	18						38

for discussions which work and community groups don't offer to adults out of school.

The sub-group differences with regard to discussion type communication activities depart from pattern a little but not completely. For instance, participants from homes where parental education is beyond the high school have above average experience for their ages while seventeens from homes with high school parental education are below average and adults from such homes are above age average. The usual differences between males and females and between whites and blacks appear in only the adult data. Region and community differences are practically nil.

The data for each of the separate activities are reported by activity in Table 4.26. These data underscore the conditions which were noted for either the absence or actual complete participation in these three types of discussion activities. Greater percentages of seventeens than adults report these kinds of activities. It appears that the school offers opportunities which are not available or taken as frequently in work or community settings. Among these kinds of activities, participation is more frequently reported (about 14 in 20 times), speaking or reporting next most frequently (approximately 9 in 20 times), and leading least frequently (about 8 in 20 times). Leading is not all that infrequently reported compared to speaking or reporting except among seventeens where their school attendance seems to offer opportunities for speaking and reporting which are less frequently available to adults.

See Table 4.26, p.187

Sub-group variations from age averages aren't that sufficiently discrepant from data for all three activities to warrant individual comment.

TABLE 4.26

TYPES OF DISCUSSION ROLES PLAYED
EXERCISE 302 017

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Partici-pated	17	76										51	57	66		84		82					
	Adult	64					68	61	48	53	66	43	50	57	70	79							
Lead	17	40			45							19	28	34	34	50			37				
	A	36					43	30		29	37	12	27	29		50							
Spoke or Reported	17	56		47	64		53	59				42	37	45	53	66							
	A	38					43	32		27	39	10	25	28	43	54	24						49

.26 Summary: Communication Skills

Communication skill is necessary to career and occupational development. These data indicate that following street directions becomes fairly universal as early as thirteen and continues available thereafter. Locating a correct telephone number is also fairly universal as early as thirteen but becomes even more so later. Correctly addressing an envelope is also pretty universal by thirteen. However, correctly ascertaining the costs of three items in a mail order delays near universal presence until about seventeen. Communication activities involving interpersonal discussion are far from universal ever in the age range studied. Only on the order of 6 in 20 seventeens and adults experience discussion participation and leadership and speaking or reporting within a year's period. However, these and other communication data emphasize that both opportunity and practice do lead to further skill acquisitions. When such opportunity or practice is available in school, daily living or work, percentages continue to rise for age groups. Otherwise they fall off.

Demographically related variability from age averages show in similar or logically different patterns among the communication data and the numerical skill data. Being from a home with more than a high school education leads to both skills being available in higher than age percentages while being from a home with less than a high school education leads to both skills being available in less than age percentages. Males tend to exceed age averages on numerical skills, to fall short of them on clerical skills. Females do the reverse. Whites tend to exceed age averages for both skills while blacks fall short of those averages in both instances. The southeast region generally has its participants falling below age averages except for the correct location of telephone numbers. The central region generally relates to above age average performance in numerical but not communication skills. Low socioeconomic areas in metropolitan regions generally have subjects who fall short of age averages in the percent of mastered skills of both numerical and communication kinds. Being from a high socioeconomic area of a metropolitan region generally yields higher than average percents in numerical skills but not in communication skills although there are some communication exercises where these differences still exist.

.30 Have Generally Useful Manual-Perceptual Skills

(3 exercises:
303 008: 9, 13, 17, A
303 011: 9, 13, 17, A
303 012: 13, 17, A)

Career and occupational development also requires application of manual-perceptual skills at work. The National Assessment of Educational Progress released three manual-perceptual skill exercises which offer data along with exercise content for furthering the understanding of manual-perceptual skill development in career development. The three available exercises speak as follows starting with those skills that are more universally needed and available and going to those with more specialized applications and less universality.

.31 Read Quantity of Liquid Depicted in a Measuring Cup (303 011: 9, 13, 17, A)

This exercise depicts a marked measuring cup with shading at a level of 1 1/4 cup from the bottom. Subjects select the correct amount of water depicted on the cup from among four options.

The percentages of subjects at each age who indicated the correct answer to this exercise are noted in Table 4.31. This perceptual skill is to be found in 6 in 20 nines, 15 in 20 thirteens, 18 in 20 seventeens, and only 17 in 20 adults. The skill again seems to increase with schooling but deteriorates somewhat out of school.

See Table 4.31, p.191

Except for the fact that sex differences fail to appear at all in this exercise, the exercise shows the now frequently seen sub-group related deviations from national averages for the several ages. Participants from homes

TABLE 4.31

CORRECTLY READ LIQUID LEVEL IN MEASURING CUP
EXERCISE 303 011

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Correct	9	30	25						15	12	35	23	20			40	14		34				46
	13	76	68		82				57	48	83	57	56			86	64						87
	17	92	87	96	95				84	75	95	75	83	85		97	85				96		97
	Adult	85	76		90				62	58	89	58	77	81	90	93	67					91	95

with beyond high school education are above age averages; those from homes with less than high school parental educations are below age averages. Whites are above age averages; blacks below. Participants from the southeast are below age averages; those from the central region generally above. Participants from low socioeconomic areas in metropolitan regions are below age averages; those from high socioeconomic areas in those regions above age averages.

.32 Determine Length of a 3 3/8 Inch Line
(303 008: 9, 13, 17, A)

This exercise depicted a 3 3/8 inch line and required subjects to measure its length by means of a ruler which was provided. The percents of each age group correctly identifying the length of this line are reported in Table 4.32.

See Table 4.32, p.193

Nine in 20 nines, 14 in 20 thirteens, and 16 in 20 seventeens and adults correctly measured the length of this line. It is surprising that this skill hasn't become more universal than 16 in 20 by seventeen and later.

The by now common sub-group variability from age averages is present but less marked in this case. Parental education at the post high school level does go with higher than normal averages for age. However, only in homes where parents are without high school education do percentages go below age averages. Males exceed age averages in 3 of the 4 older instances and females fall below age averages in these instances. Whites uniformly exceed age averages; blacks uniformly fall short of age averages. Regional differences are sporadic. Low socioeconomic differences in metropolitan regions exist in only 3 of the 5 instances. The few other community type differences aren't at all notable.

TABLE 4.32

CORRECTLY MEASURED LINE LENGTH
EXERCISE 303 008

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
3 3/8 In. Line	9	46							26	19	53		26			54	14	34	55				57
	13	71	64		77		76	67	59	47	76	62	60			79	56						
	17	81			86		85	78		65	84		70	73		85							
	Adult	82					88	76		68	84					90	71	76					

.33 Sketching Four Objects in Three Dimensions
(303 012: 13, 17, A)

This exercise provided the subjects with a handout on which four geometric figures had been mounted. The figures were a sphere, a cube, a cylinder, and a pyramid. The subject was then given a standard piece of paper on which a box had been printed. The subject had to draw all four figures in this box.

The exercise was primarily scored in terms of (a) the positioning of the four objects in the box, (b) the achievement of three-dimensional representation of the figures, and (c) the maintenance of the figures in their original relative sizes.

Table 4.33 indicates the percents of each age group who succeeded in getting the positions, the three-dimensionality, and the relative sizes of the four objects fairly adequately represented. Notice that this kind of drafting skill isn't too well represented among any of the age groups. Generally speaking only about 3 in 20 of thirteens, seventeens, or adults in the country possess this skill adequately. It is really surprising that seventeens and adults exceed thirteens by only 2 or 3 percentage points.

See Table 4.33, p.195

The picture of sub-group variability is rather different in this case. It is subjects only from families with postsecondary high school educations who exceed age averages. Those from families with high school education or less fall short of age averages. There are no sex differences in this skill. However, whites do exceed age averages; blacks fall short. Subjects from the southeast region do also fall short of age averages in this skill. Community type differences are sporadic and not notable in any way.

TABLE 4.33

CORRECTLY REPRESENTED POSITION, DIMENSIONALITY AND SIZE OF OBJECTS
EXERCISE 303 012

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Correct	13	14	8							6	15	7			11	19					9		19
	17	17	11	22						8	18				14	21	11						
	Adult	16	13			21				10	17		12	12		22							27

The picture shifts slightly when the data for each type of assessment are viewed separately as presented in Table 4.34.

See Table 4.34, p.197

The general lack of development of the several aspects of this skill still shows up in the separate data for position dimensionality, and relative size. Thirteens, seventeens, and adults don't markedly differ from each other in any of these skills. Relative size was correctly achieved in about 4 in 20 of all age groups, position in about 4 to 7 in 20 of all age groups, and three dimensionality in about 10 to 20 in all age groups.

When the data are broken into each of the three aspects on which the exercise was scored, the standard sub-group pattern originally appearing among the numeric data results perseverates among the data for position and three dimensionality but not for relative size. In the former case, parental education, sex, race, region, and community type operate standardly. In the latter case the differences are weak existing only for the highest level of parental education and race and for the southeast region. In this regard these data for relative size reflect the pattern enunciated for all three of these aspects taken together.

.34 Summary: Manual-Perceptual Skills

Perception is highly necessary to career and occupational development. These data indicate that adequate perception of liquid levels in marked containers is fairly universal among seventeens and adults after starting in as many as 6 in 20 of the nines. Measuring the length of a short line, on the other hand, appears among a higher percentage of the nines, about the same percentage of the thirteens, and a somewhat less but still high (16 in 20)

TABLE 4.34

CORRECT REPRESENTATION OF EACH CONCEPT OF OBJECTS
EXERCISE 303 012

Concept	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Position	13	28	20		32		32	24		13	31	19	10	19		36	20						36
	17	33	23	40			36	30		20	34	19	24		30	37					23		
	Adult	22	16				25	20		8	24		15	14	26	29	11		19				40
Three-dimensionality	13	52	37		61		57	49		28	57	44		35		61	45						62
	17	62	45	69	66		65	58		39	64	39	51	51		67							71
	A	56	44	61			60	52		30	59	34	42	48	63	70	46						72
Relative Sizes	13	18	13						11	14	19	11			15	23							
	17	21	15							14	22					24							
	A	21	17			25				13	22		16	16		26							

percentage of the seventeens and adults. This characteristic isn't so universally represented in the adult population. In addition, it shows no development from thirteen to adult years. There is variability in availability of the capacities to perform the size, position, and three dimensionality aspects of this skill with the increase going from 4 in 20, to 5-6 in 20, to 11 in 20, respectively.

Sub-group patterning among perceptual tasks is similar to that of its patterning in numeric skills for the reading of liquid levels in marked containers. However, the pattern begins to break up a little with the measuring of lines, and even more so with the three dimensional representation of four objects in correct relationship. In the latter instance it is largely the very high and very low parental education levels which show above and below age average variability. Sex differences change or disappear but race differences persist. Regional and community type differences disappear except that the southeast usually has a depressed average for the age categories and so do low socioeconomic areas of metropolitan regions.

.40 Have Generally Useful Information-Processing and Decision Making Skills

(1 exercise:
304 001: 17, A)

.41 Suggesting Changes in Hiring Policies
(304 001: 17, A)

The ability to acquire and interpret information and to make rational decisions in the light of that information is central to all work. It does not characterize every task or job in the world of work, but it presumably accounts for the existence of each task or job. For example, the characteristics of jobs and requirements of workers should, logically, depend on information about what needs to be done and what materials are available for accomplishing each function.

Notwithstanding such logical assumptions, many job descriptions or requirements are archaic or otherwise inappropriate. They are based on traditions, on misinformation, or on prejudice.

The only released exercise for this sub-objective supposes that a large airline has the following policy: "All stewardesses must be unmarried women between the ages of 21 and 35." The exercise asks, "How would you change the policy? Write your new policy below."

Responses were scored in respect to four components of policy: Marriage, Sex, Age, and Other. It seems reasonable to assume that job analysis would require liberalization of the stated policy in respect to the first three stipulated components. So evaluation of performance may be stated in terms of whether people tended to liberalize policy, leave it unchanged, or restrict it further.

See Table 4.41, p.200

TABLE 4.41

PROPOSED CHANGES IN AIRLINE POLICY ON MARRIAGE
EXERCISE 304 001

Change	Age	Nat.	Sex	
			M	F
Liberalize Policy	17	48	45	50
	Adult	54	51	58
Liberalize Under Given Conditions	17	17	13	21
	A	10	8	12
No Change	17	28	34	23
	A	24	29	21
Restrictive Change	17	1		
	A	1		
Unacceptable Response	17	3		
	A	2		
I Don't Know	17	1		
	A	7		
No Response	17	1		
	A	1		

As Table 4.41 shows, about half of each age group proposed to *liberalize* policy on Marriage, with an additional 10% of adults and 17% of seventeens proposing *liberalization under given conditions*. More females than males favored liberalization. About a quarter of each age group made no suggestion for change in the policy on Marriage, and only about 1% suggested a more restrictive change.

See Table 4.42, p.202

Table 4.42 shows that the appearance of sex bias in the stated policy provoked a call for *liberal* change from only 15% of the adults and 8% of the seventeens. About 75% of the adults and 87% of the seventeens evidently saw nothing wrong with it and made no suggestion for change. There were no significant differences between the sexes on this component.

See Table 4.43, p.203

Table 4.43 indicates that the stated policy on Age was less acceptable: 38% of the adults and 28% of the seventeens went along with it; but 26% of the adults and 13% of the seventeens said there should be *no* age limit, and an additional 19% of the adults and 34% of the seventeens believed the age span should be increased but not to age 65. More females than males suggested the latter option. A *restrictive* change (i.e., an age span less than the stated policy) was proposed by 3% of the adults and 18% of the seventeens, with more males than females in the latter group.

See Table 4.44, p.204

TABLE 4.42

PROPOSED CHANGES IN AIRLINE POLICY ON SEX
EXERCISE 304 001

Change	Age	Nat.
Liberal Change	17	8
	Adult	15
No Change	17	87
	A	75
Unacceptable Responses	17	3
	A	2
Don't Know	17	1
	A	7
No Response	17	1
	A	1

TABLE 4.43

PROPOSED CHANGES IN AIRLINE POLICY ON AGE
EXERCISE 304 001

Change	Age	Nat.	Sex	
			M	F
No Age Limit	17	13		
	Adult	26		
Increases Span but Not to 65	17	34	29	38
	A	19	15	23
Increases Span Under Given Conditions	17	2		
	A	3		
Unacceptable Response	17	3		
	A	2		
No Change	17	28		
	A	38		
Restrictive Change (Makes Age Span Less)	17	18	21	14
	A	3		
Don't Know	17	1		
	A	7		
No Response	17	1		
	A	1		

TABLE 4.44

PROPOSED CHANGES IN OTHER POLICIES
EXERCISE 304 001

Change	Age	Nat.
Combination of Restrictive and Non-restrictive Changes	17	1
	Adult	1
One Restrictive Change	17	14
	A	9
More Than One Restrictive Change	17	20
	A	15
Unacceptable Response	17	3
	A	2
Don't Know	17	1
	A	7
No Response	17	61
	A	66

As Table 4.44 shows, suggestions for Other changes were almost all restrictive: 9% of the adults and 14% of the seventeens proposed one other restrictive change, and 15% and 20%, respectively, proposed more than one restrictive change (such as weight, citizenship, physical attractiveness, mental stability, etc.).

Perhaps the easiest way to account for the failure of most respondents to suggest changes in policy on Sex is simply that sex was implicit rather than explicit in the policy statement. Perhaps they assumed from the word "stewardesses" that sex was a given. Thus, we may assume that the respondents are better at using information that is explicit than at acquiring and using information that is implicit.

.50 Have Generally Useful Interpersonal Skills

(3 exercises:
305 008: 9, 13, 17
305 009: 9, 13, 17, A
305 010: 13, 17)

Responses to previous exercises asking what people like or dislike about jobs showed a great deal of concern for interpersonal relations. Clearly, people liked having congenial co-workers, pleasant interactions, a sense of teamwork; they liked having supervisors who were pleasant, reasonable, and fair. Interpersonal relations evidently were viewed as important both for making the work environment more pleasant and for contributing to effectiveness of work. Conversely, they disliked surliness, excessive bossiness, impersonality, lack of concern. Given the importance of interpersonal relations, this sub-objective tries to find out how adept people are in managing them.

Good interpersonal relations clearly involve attitudes, temperaments, and skills. These are not easy to disentangle. The three released exercises for this sub-objective elicit different kinds of behavior in attempting to measure the skills involved. The first is biographical, asking whether students have done anything to help a fellow student with school work. The second is hypothetical: what could they do to help someone who needed a certain kind of help? The third is observational and evaluative: describing and judging what a supervisor in a film has done.

.51 How Helped Another With School Work
(305 008: 9, 13, 17)

Part A of this exercise asks, "Have you ever helped anyone with school work that he could not do by himself?" Table 4.51 shows that about 18 in 20 people in every age group answered affirmatively. Part B asks, "What did you do to help that person?"

See Table 4.51, p.208

Roughly, according to Table 4.52, about 62% to 70% of the four age groups responded in general terms, while 19% to 32% mentioned a specific way of helping or a specific part of a subject area. In short, a large majority of all age groups perceive themselves as having helped someone else, at some time and in some way, with school work. They view themselves as having had some ability they could share.

See Table 4.52, p.209

.52 How Help Another Who Speaks Almost No English (305 009: 9, 13, 17)

"Suppose you knew someone who spoke almost no English. How could you help him to get along?" Almost everyone in the sample was able to make at least one constructive response, with variation by age ranging from 87% of the nine-year-olds to 96% of the adults (Table 4.53). So it is clear that most people are able to think of a way in which they could be helpful in the situation described.

See Table 4.53, p.210

.53 Naming Four Best and Worst Things a Supervisor Did (305 010: 13, 17)

Based on a film presumably showing a supervisor in action, Part A asks, "What are the four BEST things that Mr. Brown did as boss? Give an example for each thing." Part B then follows up with "the four WORST things." Again, a high proportion of each age group were able to make acceptable responses to

TABLE 4.51

HAVE HELPED SOMEONE WITH SCHOOL WORK
EXERCISE 305 008

Response	Age	Nat.
Yes	9	88
	13	95
	17	90
	17 in	91
No	9	12
	13	5
	17	10
	17 in	9

TABLE 4.52

WHAT DONE TO HELP
EXERCISE 305 008

Response	Age	Nat.
Gives a Specific Way of Helping or a Specific Part of a Subject Area	9	24
	13	32
	17	19
	17 in	19
General Statement of Help	9	62
	13	62
	17	69
	17 in	70
Unacceptable Response	9	1
	13	1
	17	1
	17 in	1
I Don't Know	9	1
	13	-
	17	1
	17 in	1
No Response	9	12
	13	5
	17	10
	17 in	9

TABLE 4.53

PERCENTAGE GIVING AT LEAST ONE CONSTRUCTIVE RESPONSE TO HOW TO HELP SOMEONE WHO SPEAKS NO ENGLISH EXERCISE 305 009

Age	Nat.
9	87
13	88
17	92
17 out	82
A	96

these two questions: as Table 4.54 shows, 90% of the seventeens and 84% of the thirteens were able to make an acceptable response in the space for the "first thing" in each part. By the time the space for the "fourth thing" was reached, 60% of the seventeens and 51% of the thirteens were able to write an acceptable response in Part A, and 72% and 60%, respectively, in Part B.

See Tables 4.54 & 4.55, p.212-213

In Part A, as Table 4.55 shows, the most popular category was Works With Employees: Helped With the Task, mentioned at least once by 75% of the seventeens and 68% of the thirteens. About 74% of the seventeens and 52% of the thirteens pointed out that Mr. Brown Accepted Suggestions. Thus, an egalitarian attitude seems to prevail: by far the most valued characteristic in a boss appears to be willingness to help and listen, to work closely with employees and share the planning with them. Some of the sample responses categorized under Organized the Task (made by 38% of the seventeens and 41% of the thirteens) also indicated an egalitarian concern (e.g., "Splits up the work evenly," "They worked together; they all did things," etc.). A less popular category, Utilized Employees' Strong Points, mentioned by 28% and 26%, struck a less egalitarian tone, emphasizing capitalization on individual differences. About 23% of the seventeens and 20% of the thirteens liked the fact that Mr. Brown was Polite, and 23% of the seventeens and 10% of the thirteens noted that he Praises Good Work. About 14% of the seventeens and 22% of the thirteens were pleased that he Explained the Task.

See Table 4.56, p.214

TABLE 4.54

PERCENTAGE GIVING ACCEPTABLE RESPONSES
EXERCISE 305 010

	Age	First Thing	Second Thing	Third Thing	Fourth Thing
Four Best Things	13	84	77	66	51
	17	90	87	75	60
Four Worst Things	13	84	79	71	60
	17	90	88	83	72

TABLE 4.55

BEST THINGS BOSS DID
EXERCISE 305 010

Category	13	17
Organized the Task	41	38
Accepted Suggestions	52	74
Explained the Task	22	14
Polite	20	23
Praises Good Work	10	23
Utilized Employees' Strong Points	26	28
Works with Employees: Helped with the Task	68	75

TABLE 4.56

WORST THINGS BOSS DID
EXERCISE 305 010

Category	13	17
Didn't Organize the Task	6	9
Didn't Take Suggestions	13	10
Didn't Explain the Task	61	76
Discourteous, Impatient	68	76
Didn't Accept Responsibility	81	90
Showed Favoritism	13	16

Table 4.56 shows that in Part B, on the other hand, 76% of the seventeen-year-olds complained that he was Discourteous, Impatient and Didn't Explain the Task, with 68% of the thirteens concurring on discourtesy, 61% on failure to explain. But by far the most frequent criticism was that he Didn't Accept Responsibility, apparently having blamed others for mistakes: this category was mentioned by 90% of the seventeens and 81% of the thirteens. This characteristic may, of course, be the other side of the egalitarianism that was noted so favorably in Part A. The ideal supervisor, according to these perceptions, would arrange matters so that the work and the planning would be shared quite democratically, but only the boss would take the blame if anything went wrong. It would be interesting to know whether respondents saw any conflict between these positions. At any rate, the constructs for BEST and WORST seem similar, with perceptions sometimes varying along a dimension from one extreme to another: thus, a majority made a negative report on Mr. Brown's politeness and explanation of the task, while a minority singled out just those characteristics for praise.

.54 Summary

The concern previously registered for interpersonal relations at work seems to be supported, in general, by skills as defined in released exercises for this sub-objective. That is, large majorities reported that they had helped others in school work; could think of ways of helping someone who did not speak English; could recognize and evaluate supervisor behaviors that were consistent with some of the standards they had previously used in judging jobs. In the last exercise, there remains some question as to whether they have endorsed irreconcilable criteria.

.60 Have Employment-Seeking Skills

(2 Exercises:
306 006: 13, 17
306 009: 17, A)

Skills involved in seeking a job have assumed particular importance during periods of relatively high unemployment. These skills include knowledge of both job-hunting and job-getting resources and methods. One of the released exercises for this sub-objective taps knowledge for job-hunting, and the other requires a demonstration of a skill in applying for a job.

.61 Naming Five Kinds of Local Part-Time Work for Age (306 006: 13, 17)

Presumably, job-hunting skill includes some knowledge of where to hunt. This exercise asks teen-agers to "List five kinds of part-time work people your age to do earn money in or near your town." Interestingly, as Table 4.61 shows, thirteen-year-olds somewhat exceeded seventeen-year-olds in acceptable responses. About 86% of the thirteens, compared with 73% of the seventeens, were able to make an acceptable response in the first space for the "kinds of work." The response rate held up quite well through the fourth space, at which point acceptable response frequencies for thirteens and seventeens began to converge. The rate declined in the fifth space to 64% of the thirteens and 63% of the seventeens. There were very few "Don't Know" responses throughout, and the "No Response" rate was also small right up to the fifth space. About a fourth of the seventeens made unacceptable responses in each of the five spaces, compared to about 16% of the thirteen-year-olds. Why seventeens made so many unacceptable responses to this question, particularly in comparison with thirteens, is not clear. Perhaps it is attributable to some artifact in the scoring protocols.

See Table 4.61, p.218

.62 Responding by Letter to Help Wanted Advertisement (306 009: 17, A)

This exercise presents "three ads from the Help Wanted section of a newspaper," asks the respondent to choose one to apply for, and then to write a letter of application for that job, signing it as Dale Roberts. As Table 4.62 shows, of the three jobs, females chose much more often that males to apply for Office Helper; males chose much more often than females to apply for Apprentice Mechanic; and there were no sex differences in the numbers who chose to apply for Salesperson.

See Table 4.62, p.219

The scoring of the letters evaluated such categories as description of the job advertised, qualifications of the applicant, references, elements of format, etc. in terms of two criteria: whether the writer attempted to include each category and whether the attempt was successful (correctly accomplished). Perhaps paradoxically, in the category of Job Description (Table 4.63), successes outnumbered attempts. That is, while less than three-fourths of both age groups explicitly mentioned the job advertised, a greater number referred to it either directly or indirectly (perhaps in the course of mentioning qualifications). More females than males were meticulous about this category.

See Table 4.63, p.220

TABLE 4.61

PERCENTAGE OF ACCEPTABLE/UNACCEPTABLE RESPONSES
EXERCISE 306 006

	Age	Response				
		#1	#2	#3	#4	#5
Acceptable Response	13	86	83	79	73	64
	17	73	73	69	69	63
Unacceptable Response	13	13	16	17	17	16
	17	26	26	29	26	24
Don't Know	13	-	-	1	2	5
	17	-	-	1	1	2
No Response	13	-	1	3	8	15
	17	1	1	2	4	11

TABLE 4.62

PERCENTAGE CHOOSING TO APPLY FOR EACH JOB TYPE
EXERCISE 306 009

Job	Age	Nat.	Sex	
			M	F
Office Helper	17	44	15	69
	A	38	13	62
Salesperson	17	25		
	A	29		
Apprentice Mechanic	17	29	58	4
	A	26	49	4

TABLE 4.63

JOB DESCRIPTION
EXERCISE 306 009

	Age	Nat.	Sex	
			M	F
Attempted to Describe the Job	17	71	67	75
	A	73		
Described the Job Correctly	17	78	75	81
	A	82		

Job Qualifications (Table 4.64) were attempted by 9 out of 10 adults and even more seventeens, and were adjudged correct for equally high numbers, with females again outnumbering males in both attempts and successes. Among the Kinds of Qualifications mentioned were education, experience, and personal qualities relevant to the job (Table 4.65).

See Tables 4.64 & 4.65, p.222-223

As Table 4.66 shows, only 17% of the adults and 12% of the seventeens attempted to give References and even fewer managed to do so correctly, with the number of females again exceeding the number of males. About a quarter of the adults and 16% of the seventeens asked for an Interview, females outnumbering males once more. Apparently, virtually all who attempted to request an interview were judged to have done so correctly. About 45% of the adults and 38% of the seventeens attempted and almost as many succeeded in indicating how they could be Contacted--i.e., gave name, address, telephone number--with more females than males tallied in this category. Only a smattering of letters Asked for More Information About the Job or Gave A Reason for Wanting or Needing A Job, and these categories were more often used for seventeens than for adults.

See Table 4.66, p.224

When it came to Format (Table 4.67) about 18 in 20 in both age groups successfully attempted to include a correct Greeting, Closing, and Signature. On the other hand, only about a third to two-fifths correctly put in an Inside Address or a Date, and even fewer managed a Return Address. More females than males were tallied in all these categories.

TABLE 4.64

JOB QUALIFICATIONS
EXERCISE 306 009

	Age	Nat.	Sex	
			M	F
Attempted to Describe Their Qualifications for the Job	17	93	90	96
	A	90	88	92
Described Qualifications Correctly:				
(1) Gave High Level Qualifications	17	82	76	87
	A	81	78	83
(2) Gave Relevant Personal Qualities	17	11	14	9
	A	9		

TABLE 4.65

KINDS OF JOB QUALIFICATIONS MENTIONED
EXERCISE 306 009

Qualifications	Age	Nat.
Education & Training:		
Tells How Much School Completed	17	13
	A	17
Gives Specific Courses Taken in School	17	44
	A	30
Gives General Statement of Education	17	2
	A	2
Experience:		
Gives Specific Duties of Previous Job	17	3
	A	7
States He/She has Experience in the Job	17	46
	A	58
Gives General Statement about Work Experience	17	16
	A	11
Personal Qualities:		
Mentions Facts Relevant to the Job	17	13
	A	14
Gives Behavioral Traits Relevant to the Job	17	65
	A	49
Gives Generalities or Mentions Personal Appearance	17	3
	A	8
Other Qualifications:		
Other Information (May or May Not be Relevant to the Job)	17	20
	A	19
Meeting the Requirements:		
I Meet All Your Requirements	17	3
	A	2

TABLE 4.66

PERCENTAGE CORRECTLY INCLUDING IMPORTANT INFORMATION
EXERCISE 306 009

	Age	Nat.	Sex	
			M	F
References:				
Attempted to Provide References	17	12	10	13
	A	17	13	20
References Correctly Done: Told Who & How to Contact	17	9	8	10
	A	14	11	17
Interview:				
Indicated Willingness to Appear for an Interview	17	16	13	19
	A	26		
Correctly Indicated Willingness to Appear for Interview	17	16	12	19
	A	26		
Contact:				
Attempted to Indicate How He Could be Contacted	17	38	35	40
	A	45	38	51
Attempt Correctly Done: Gave Name & Address of Phone Number	17	36	33	38
	A	42	34	50
Other:				
Asked for More Information about the Job	17	8		
	A	4		
Gave Reason for Wanting or Needing a Job	17	10		
	A	7		

See Table 4.67, p.226

Would their skills in writing job applications help or hinder most people in getting jobs" Since a majority neglected to indicate how the employer could reach them, their letters--whatever other virtues they possessed--would probably be wasted. It is difficult to judge, however, whether the ground rules--such as signing a fictitious name--may have tended to forestall actions which might otherwise have been taken. Perhaps imaginations flagged, or were not sufficiently alerted, to provide "Dale Roberts" with an address and telephone number. While deficiencies in Format might be very important in an application for Office Helper, they might have little influence on the employer of an Apprentice Mechanic. At least there is some comfort in the finding that very large numbers thought of mentioning (at least one of) their Qualifications for the job.

.63 Summary

The conclusion from the two released exercises for this sub-objective is inescapable that employment-seeking skills are deficient in many people. Many adolescents faltered in listing kinds of part-time work that people their age did. Lack of knowledge of the kinds of opportunities available for part-time work would make it difficult for them to know where to begin a job-hunt. That many adults and seventeen-year-olds were unable to write effective letters of application for a job is not surprising. The encouraging note is that those who thought of including something generally managed to do so correctly. The errors of omission can probably be helped most readily by such prosthetic devices as checklists and sample letters, to be made widely available in career development courses, newspapers, television, and other media.

TABLE 4.67

FORMAT OF JOB APPLICATION LETTER
EXERCISE 306 009

	Age	Nat.	Sex	
			M	F
Return Address:				
Attempted	17	24		
	A	28	23	33
Correctly Done	17	20		
	A	24	18	29
Date:				
Attempted	17	33	20	44
	A	41	32	50
Correctly Done	17	32	20	43
	A	40	30	49
Inside Address:				
Attempted	17	40	32	46
	A	43	39	46
Correctly Done	17	33	25	40
	A	39	34	43
Greeting:				
Attempted	17	94	91	96
	A	89	87	91
Correctly Done	17	92	89	95
	A	88	87	90
Closing:				
Attempted	17	86	80	91
	A	82	77	88
Correctly Done	17	85	79	91
	A	82	76	87
Signature:				
Attempted	17	87		
	A	87	85	88
Correctly Done	17	85	83	88
	A	85	83	87

Chapter 5*

PRACTICE EFFECTIVE WORK HABITS

The National Assessment Educational Progress' Study of Career and Occupational Development offers structure for seeing the development of preparation for career decisions in Chapter 2, inprovement of career and occupational capabilities in Chapter 3, indications of the degrees to which various useful work skills have developed in Chapter 4, and continues in this Chapter with indications of the work habits which subjects can practice effectively. The released exercises for the practice of effective work habits include those dealing with assumption of responsibility for one's own behavior and the use of initiative and ingenuity to fulfill responsibilities.

.10 Assume Responsibility for Own Behavior

(3 Exercises:
401 003: 13
401 009: 9, 13, 17, A
401 013: 9, 13)

.11 Responsibility for Getting Bread for Mother (401 003: 9, 13)

This exercise consists of a cartoon showing Mary meeting Tom on the street as she is going to the store to get bread for her mother. Tom asks her to stop as he has something to tell her about her friend Linda. Since Mary can't resist, she stops and talks lengthily before going on to the store. When she reaches the store, she finds it had closed while she talked to Tom and therefore returns home without the bread she had been sent to fetch. Her mother then asked, "Well, Mary, where's the bread I asked you to buy?" The question the student must answer is: "Whose fault was it that Mary did not buy the bread for her mother that night?"

The nines and thirteens who answered this question were given four options from which to choose their answers as well as a "don't know" response. The four options ranged from the correct response that Mary was at fault because she talked too long through the somewhat neutral response of its being Mary's fault because she didn't want to be rude to the projective responses that it was Tom's fault because he either talked too long or was even more restraining, not letting Mary leave, a quite obviously inaccurate inference. The results for this exercise are presented in the above order in Table 5.11.

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* Chapter 5 was written by Anna Miller-Tiedeman

See Table 5.11, p.229

The surprising feature of the data in Table 5.11 is the fact that the correct attribution of fault, to Mary, is so low among both the nines and thirteens. Only about 1 in 20 of the nines and about 4 in 20 of the thirteens attribute the cause of this event to Mary who had the responsibility throughout the episode. It is gratifying, however, that, even though accurate assessment of responsibility is low at these ages, it does become more prevalent in the population by thirteen than it was at nine.

A more popular response which also had a positive developmental gain was the no fault response. About 4 in 20 nines and about 8 in 20 thirteens felt that Mary's desire not to be rude kept her from leaving and lead to conclusion that neither Mary nor Tom was at fault. Both this response and the accurate response suggests that children are more impressed by avoidance of rudeness than acceptance of responsibility and that they really need help in learning how to be both responsible and polite.

Fortunately, the two projective responses declined in their choice from nine to thirteen despite the fact that both are elected by from 7 to 8 in 20 of the nines in the beginning. The largest decline in projection occurs with the attribution of cause to Tom's talking too long. Only 2 in 20 thirteens

TABLE 5.11

PERSON AT FAULT FOR MARY'S FAILURE
EXERCISE 401 003

Whose Fault that Mary did Not Buy Bread That Night?	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Mary's fault; she talked too low.	9	5					6	5															
	13	23			18					15	24	16				27	13						
No one's fault; Mary didn't want to be rude.	9	19					16	21		10	20	15						12	16				
	13	39		32	44					47													
Tom's fault; he talked too long.	9	39					44	35		52	37	43				33			44	33			33
	13	11				13				15	10					9							
Tom's fault; he wouldn't let Mary leave.	9	35			40		31	39		27	36					39							
	13	24																					

give that response which is more in keeping with the facts of the cartoon in which the conversational balloons of both Mary and Tom are of about equal length. The response which doesn't decay as rapidly is that in which Tom is declared to have been at fault by not letting Mary leave. As many as 5 in 20 thirteens still pick this response after 7 in 20 of the nines do. This again tends to suggest that the desire not to be rude is interpreted as requiring that one stay and talk despite imminent business elsewhere. It would seem that instruction in how to handle the dual career skills of responsibility with politeness is in order at these ages.

Significant variations from age averages are associated with sub-group characteristics. However, with one exception these significant differences are so variable that they lack meaning. For instance, the significant variations related to parental education, race, region, and type of community appear sporadically for one age group or another in one response or another. No pattern seems present.

Sex proves to be the only variable in which there is significant variation from age average in all four responses. This is true of sex for the nines but not the thirteens. In the latter case, all the sex variation evident among the nines completely disappears among the thirteens. However, among the nines, females are below age average in attributing fault either to Mary (the correct response) or to Tom for having talked too long. On the other hand, females are above age average in attributing fault to neither Mary nor Tom because Mary didn't want to be rude and to attributing fault to Tom because he wouldn't let Mary leave. Since there is only one degree of freedom in these differences, it is not surprising that the male differences are exactly opposite in each case. However, the data suggest that girls have more trouble than boys in handling politeness when caught in a dilemma of having to pursue an errand responsibly.

Girls seem to want help from boys in handling the dilemma of having to remain other-goal oriented when offered the opportunity to converse.

.12 Responsibility for Accident in a Factory
(401 009: 13, 17, A)

This question asked the subject to imagine being a factory worker who is operating a machine which has a special safety shield. The worker is required to put up the safety shield when the machine is being used so that hot pieces of metal which might come off the machine will not hit or burn other workers. One day the worker used the machine without the safety shield. A piece of hot metal "flies through the air and severely burns another worker who was in a place where he wasn't supposed to be." The question is "are you responsible for the injury to the other person?" The only data reported was for seventeens in the race and parental education area. The national average was 82 percent. Blacks scored 75 percent which was below the national average, and whites scored 84 percent which was above the national average. Proportionately more blacks than whites felt that the worker was not responsible for the injury to the other party. In regard to education, those students who indicated their parents had education beyond high school were above the national average with 84 percent agreeing that they were responsible for the injury to the other person.

Students were also asked to give a reason for their answer. As indicated in Table 5.12 abcut 13 in 20 of the thirteens and about 16 in 20 seventeens and adults indicated a reason for action which they took. The developmental gain in personal responsibility seems to be practically complete by seventeen although it is gratifying to see it advance even a little higher among adults.

See Table 5.12, p.232

TABLE 5.12

ACCEPTABLE REASON GIVEN
EXERCISE 401 009

Response	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Acceptable Reason	13	66					69	63	51	50	70	49				74							73
	17	78							63	68	80	65				80							87
	17 in	79								71	80									83			
	Adult	81					84	78			82	64			84								

Subjects who indicated their parents had graduated from high school and had additional education were also at age averages. Sex differences were again apparent with males being above age averages and females below among the thirteens and adults. Although black students increased developmentally according to age levels, they still remained under age averages while white students both increased developmentally and remained above age averages. There were no significant regional differences. Subjects living in the middle sized cities and high metropolitan areas also scored above their age averages in taking full responsibility for injury to another in this situation.

.13 Dealing With a Rule Considered Unfair
(401 013: 9, 13, 17, A)

In this exercise, subjects were told, "Suppose your school made a new rule that you thought was very unfair. What would you do?"

The several responses students gave to this question are arrayed in Table 5.13 in what might be considered a descending order of direct action, or at least, of a feeling of responsibility to one's self to make one's displeasure for unfairness not alone known but felt. It is interesting to note in this Table that a total of about 7 in 20 nines and about 12 in 20 thirteens gave responses which at least involve the subject in either talk or action in relation to the rule that was unfair. Practically none of either the nines or the thirteens responded that they would obey. Furthermore the responses which involve responsible direct action also increase from nine to thirteen. These responses include protesting or petitioning, enlisting the aid of one's representative, discussing the matter with someone in authority, and talking with

See Table 5.13, p.234

TABLE 5.13

MEANS PROPOSED TO CHANGE RULE
EXERCISE 401 013

Response	Age	Nat.
Protest or Petition	9	1
	13	5
Enlist Aid of Rep.	9	0.4
	13	9
Discuss with Someone in Authority	9	27
	13	38
Talk Over with Peer	9	2
	13	5
Discuss with Someone without Authority	9	5
	13	1
Obey	9	0
	13	1

peers about it. The more useless tack of discussing the unfair rule with someone without authority decreases in incidence from nine to thirteen.

There are no sub-group related differences in the developmental pattern. It appears that personal responsibility does develop even though it is not too highly represented in toto among nines and thirteens in the population.

.14 Summary

Assuming responsibility for one's own behavior is a central career skill. When this skill lies dormant or becomes perverted through regular lying to one's self, the individual remains powerless in relation to auto-information from examination of personal experience.

The three questions on development of responsibility for one's behavior suggest that the responsibility does become more prevalent in the population as persons age. However, in relation to taking responsibility both for breaking out of an inadvertent conversation to complete a responsibility and for acting directly to attempt change of an unfair rule, the incidence of non-self deceiving, self effectual behavior is not prevalent in the population to a high degree. Fortunately, the single exercise in which older subjects also indicate their assumption of responsibility for an accident they might have caused at work does increase to higher levels among seventeens and adults. At this time, such responsibility is evinced by between 15 and 16 of such persons in 20, at least when subjects are reporting to another person about it with no negative sanctions being evident.

The sub-group imprinting on these developmental incidences is neither marked nor regular. There does seem to be some indication that younger females agonize more over being polite in conversation while trying to remain goal oriented than do younger males. It also appears that blacks are less inclined than whites to admit responsibility for an accident they might have caused in a factory. These are important differences which suggest things which a program in career development education might address frontally. However, in general it appears that the assumption of responsibility for one's own behavior develops with age but not in association with amount of parental education, region of the country, or type of community.

.30 Use Initiative and Ingenuity to Fulfill Responsibilities

(3 Exercises:
403 004: 9, 13
403 005: 9, 13
403 010: 17, A)

The released exercises of NAEP included three more which further plumbed the development of effective work habits. These three additional questions assessed subjects' initiative and ingenuity in fulfilling responsibilities they were asked to assume they had.

.31 Fastest Way to Fold and Staple Two Sheets of Paper to Conform to a Model (403 004: 9, 13)

Students were asked to look at two pieces of paper that were folded together and stapled. They were told to fold and staple a piece of paper like the given example. Subjects were scored on (1) whether they folded the papers together or not, (2) in the right place, and (3) stapled them together in the correct place or not.

Data for this exercise are reported in Table 5.31. The data suggest that this is a relatively easy exercise for thirteens--from 18 to 19 in 20 of them correctly fold and staple the two papers together. The data also suggest that the exercise is not too difficult for nines either; from 17 to 19 in 20 of the nines also get this exercise almost completely correct. What tends to stump about 3 in 20 of the nines is folding the papers together and stapling them in the correct place. Nines get the folds in the correct place in as high a proportion as do thirteens. Thus it appears that just the necessity of folding two pieces of paper simultaneously remains a trick of which a small proportion of nines are not very conscious.

See Table 5.31, p.238

TABLE 5.31

STEPS COPIED CORRECTLY
EXERCISE 403 004

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Papers folded together?	9	83					82	85										74					
	13	92			90	95															95		
Folds in correct place	9	95					94	96															
	13	98							100														
Stapled in correct place	9	87				92	84	90		82	88												
	13	95				97	94	97			96											97	

Although there are significant differences between the sexes among nines on all three parts of this exercise and between blacks and whites in the stapling process, the magnitude of these significant differences are inconsequential. The significant differences are on the order of only 4% at the most. In addition, significant age differences related to amount of parental education in the home, region, or type of community are either non existent or too sporadic to form a pattern worthy of note.

.32 Getting an Assigned Job Done Which is Not Fully Understood (403 005: 9, 13)

Subjects were told to imagine that they had been given a job by their teacher and were supposed to get it done by tomorrow but did not quite understand what they were supposed to do. The question was "What would you do to get help?" Obviously they were supposed to seek clarification from the teacher because the teacher had assigned the job.

The percent of subjects who would seek further clarification from the teacher are reported by age in Table 5.32. Between 10-11 in 20 of the nines and 17-18 in 20 of the thirteens said they would ask more questions of the teacher. Adequate information seeking behavior seems well ingrained by thirteen.

See Table 5.32, p.240

Age variations associated with parental education follows the developmental trend with those students indicating their parents had "none" or "some" high school being below averages while subjects living in homes with education beyond high school were above the national average. Sex differences were noted with males who indicated that they would ask the teacher more questions below their age averages and females so indicating being above their age averages. Race was

TABLE 5.32

CORRECT DIRECT ACTION WHEN NOT CLEAR
EXERCISE 403 005

Action	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Ask Question of Teacher	9	53	44			59	48	57	32	36	58		29	40		61	35	39				63	
	13	88	81		90		86	90		74	90	82				91							92

also a factor with blacks being below age averages and whites above those averages. Subjects in the southeast were markedly below their age averages while subjects in the central and northeast regions scored above age averages in two of four instances. These same socioeconomic trends continue in relationship to size and type of community with the low socioeconomic metropolitan region and the extreme rural being below age average and the urban fringe and high socioeconomic metropolitan section being above age averages.

.33 Participating in Group Decision About Completing a Job on Time (403 010: 17, A)

Subjects were asked to think about the following situation: "A factory manager has just called a meeting of his foremen to decide whether they can make and deliver 200 inflatable boats of a new type within two weeks. Which one of the following subjects would be LEAST worthwhile to discuss at the meeting?

Whether the factory has enough materials on hand for 200 boats

What should be printed on the boxes the boats are shipped in

The kind of material to be used

Whether overtime will be required to meet the two-week deadline."

The correct answer was No. 2.

Data indicate that about 15 in 20 of both seventeens and adults got the item right. The lack of a developmental difference in response of seventeens and adults was also quite evident in the other three responses which were sometimes chosen. However, it is interesting to note that whether overtime will be required or not is the second most frequently chosen response of least

See Table 5.33, p.242

TABLE 5.33

IDENTIFYING LEAST WORTHWHILE DISCUSSION TOPIC
EXERCISE 403 010

Topic	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Does factory have enough material?	17	6								15	5					4	13		5				
	Adult	9	14		6					19	7		17		5	3							
What to print on boxes when shipped?	17	77							53	50	82	57	55	61		86	56		81				86
	A	77	67	81	82				56	50	81	48	63	70	83	90	55						89
Kind of material to be used?	17	4							15		3					3							
	A	3	4							6	2	11				1							0.3
Will overtime be required?	17	11								22	8		23	19		6	20		8				
	A	9								17	8		14			5	19						5

worth. It appears that about 2 in 20 of seventeens and adults are insensitive to the fact that overtime increases the cost of products and needs consideration when you are planning on the manufacturing side rather than the employment side.

Subjects who indicated that their parents had "none" to "some" high school scored below age averages while subjects whose parents had gone beyond high school scored above age averages. However, race differences emerged with 17-year-old and adult blacks scoring about 20-25 percentage points below the age averages and 17-year-old and adult whites scoring approximately 4-7 percentage points above age averages. Again the lower socioeconomic section of metropolitan areas had subjects below age averages while small places and high socioeconomic sections of metropolitan areas scored above age averages.

34. Summary

This sub-section continued assessment of the assumption of personal responsibility in the development of effective work habits. Subjects were asked to do an exemplified task, to indicate what they would do about getting additional information when they had been given an assignment but lacked knowledge of how to complete it, and to participate in a group decision about getting a new rush job out on time.

Developmentally, it appears that completing a modeled task successfully is quite universal to nines and thirteens except for the conceptual quirks in doing two things simultaneously rather than separately in which nines falter slightly. On the other hand, inquiring of the person who has assigned you a job when you fail to understand it completely proves to be a skill which is in only half the nines but appears in about 17-18 in 20 of the thirteens. Finally, finding the least relevant of four options when asked to plan a rush job with others seems to be a skill to be found in about three quarters of the seventeens and adults.

Demographically, there seems to be little imprinting of parental education, sex, race, region, and type of community on the model-following skills of youths. However, parental education, sex, race, and socioeconomically related community differences do seem to imprint a bit on both breaking through embarrassment or unconsciousness in time of needed inquiry, and the singling out of the more from the less relevant information in group decision.

Chapter 6*

HAVE POSITIVE ATTITUDES TOWARD WORK

The National Assessment of Educational Progress concludes its plumbing of Career and Occupational Development with the assessment of positive attitudes which:

A. recognize the bases of various attitudes toward work;

C. seek personal fulfillment through own achievements; and

D. value work in terms of societal goals.

.10 Recognize the Bases of Various Attitudes Toward Work

(2 Exercises:
501 009: 13, 17, A
501 011: 17, A)

.11 Reasons Why Willing Workers Experience Difficulties in Getting Jobs (501 009: 13, 17, A)

Students were asked to give six reasons why people who are willing to work find it hard to get a good job. The responses were grouped as follows: age, race, sex, ethnic and religious discrimination, overqualified, police record, past drinking/drug problem, personality, manners, attitude, appearance and other discriminatory practices. As indicated in Table 6.11 the two most frequently mentioned categories of discrimination in hiring over all three ages were race and age discrimination. Appearance, personality/manners, and sex discrimination were then mentioned as job deterrents in that overall order. The other categories did not have sufficient responses to merit further consideration here.

See Table 6.11, p.246

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* Chapter 6 was written by Anna Miller-Tiedeman

TABLE 6.11

REASONS FOR DIFFICULTY IN GETTING JOB
EXERCISE 501 009

eason	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
ge	13	18		15		25	16	21	12	13	20	14				22	11	10					
	17	26					23	29				16			22	30		18					
	Adult	16	12			19	14	18	6	6	17												
ace	13	19			16	27			10	10	21	13	8	8		27	10						30
	17	18	16			24			10			8			15	23							
	A	12	6			15	14	9			12		6			17	6				6		19
ppearance	13	9								5	9	5								12			
	17	11					13			8													
	A	16		19					6														
ersonality/ anners	13	5															3					2	
	17	7							1										10				
	A	19		25					9		20						11						
ex	13	8		5	6	14			1	2	10		4	4		12	2						16
	17	8		5		11	6	9					3		6	10		3				13	
	A	7	4		5	11			2			3	5	4		11							

Although age and race discrimination were considered to be the two most prevalent barriers to getting a job when one was willing to work, it is interesting that the prevalence of these attitudes dwindles in adults after being more common among thirteens and seventeens. It is particularly noticeable that the incidence of presumed age discrimination is quite high among seventeens and about 10 percent lower in both thirteens and adults. However, it appears that about 5 in 20 seventeens do feel age discrimination as a deterrent to their employment. The drop of incidence of felt racial discrimination among adults suggests that the press for equal employment opportunities may actually be having some payoff. Belief in this job deterrent appears in about 4 in 20 thirteens and seventeens but in only 2 in 20 adults. The young seem to remain sceptical about their chances but adults fail to consider them operative in 18 of 20 reports.

Except for the incidence of reported sex discrimination in employment which essentially remains constant at between 1-2 in 20 for the three age groups, reported discrimination because of appearance and personality/manners increases with age. Among adults about 3-4 in 20 report these characteristics to be a deterrent in job getting. Thus the data point to the fact that age, appearance, and personality/manners phase in as job getting deterrents among adults while race and sex discrimination are considered as deterrents at lesser levels by adults.

The sub-group imprint on reported incidences of job difficulties do not pattern very consistently but there are some interesting exceptions.

Parental educational level is related to perceived age, race, and sex difficulties in getting jobs. However, surprisingly in each instance, it is subjects from homes where the parental educational level is beyond high school graduation where perceived age, race, and sex difficulties in job getting exceed age averages. Subjects from homes where the parental educational level does not include high school graduation perceive these job difficulties with less incidence than their age averages.

Incidences of perceived discrimination are related to sex in all three age levels with regard to age difficulties but only for the seventeens with regard to appearance and sex difficulties and for adults with regard to race discrimination. Except for the perception of race discrimination, males are generally below their age averages in their reports of job getting difficulties for age, appearance, and sex while females are above. However, a switch occurs with regard to perceived racial difficulties. In this instance a higher than age average report is made by males and a below age average report by females.

Race differences suggest that equal employment opportunity has had a considerable effect upon the perception of blacks concerning their job getting chances. In fifteen out of fifteen instances in which the reports of blacks and other racial groups (except whites) differ significantly from age averages, blacks and others perceive job getting difficulties in lesser proportion than their age averages. In seven out of seven significant variations from age averages, whites are above their age averages in perceptions of job difficulties. Either whites are more sensitive to difficulties than blacks and others, a doubtful possibility, or job chances are seen has having improved for blacks and others by those minority groups.

Regionally, subjects from the northeast perceive job getting difficulties in higher proportion than their age averages with respect to age, race, and sex characteristics. Adults from the southeast report job getting difficulties because of age, race, and sex in smaller percentages than their age averages. Adult subjects from the west perceive job difficulties in higher than age average incidence with regard to appearance and personality/manners but younger subjects from the west perceive sex discrimination in less than age average percents.

The differences related to type of community are too spotty to provide a discernable pattern.

.12 Is It Possible for a Worker to Like a Repetitive Job? (501 011: 17, A)

Subjects were told that a Mr. Smith had a job where he ran a machine all day long that punched holes in leather belts. They were also informed that he did the same thing every day and they were asked if they thought it possible that Mr. Smith liked his job.

See Table 6.12, p.250

As indicated in Table 6.12 between 9-10 in 20 of the subjects nationally considered it possible that Smith liked his job despite its repetitiveness. There was no substantial difference between seventeens and adults in this response.

The subjects were also asked to give reasons for their answers. These reasons were categorized as follows: (1) gives evidence to show that he likes it; (2) likes the pay; (3) likes the repetitive nature of the job; (4) likes the people he works with; (5) likes working with leather, running machines and working with hands; (6) likes mental aspects: lack of responsibility, being able to let his mind wander; (7) gets satisfaction from doing a job well; (8) likes it because he has/may have low mentality; (9) only job he could get; (10) work is monotonous, no challenge; (11) no, pay is poor; and (12) he likes/might like the job.

TABLE 6.12

BELIEVE WORKER CAN LIKE A REPETITIVE JOB
EXERCISE 501 011

esponse	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
es	17	47	53				44	50		57													
	Adult	50				46	45	55					55							60			

As indicated in Table 6.13 the majority of responses were "evidence he

See Table 6.13, p.252

likes it." with about 4 in 20 of the 17-year-olds and 3 in 20 adults stating this straight forward reason. The drop in straightforwardness from 17-year-old to adult levels suggests that credibility towards the possibility of liking a repetitive job even when done dwindles with experience. Except for the reply that Smith likes routine which had a 1-2 in 20 response, the other reasons for Smith's possibly liking his repetitive job had an inconsequential level of response, it being between 0-1 in 20 in the remaining nine instances. When a reason was not chosen by more than 0.5 percent, it was not reported in Table 6.13.

Adults who indicated their parents had no high school education scored above age average (11 in 20 in their belief that Smith could like his repetitive job) and those adult students in the middle city also scored above age average (12 in 20 percent). Sex differences were apparent with males scoring below age averages and females scoring above among both the seventeens and the adults. Race differences were not too apparent but 17-year-old blacks did score above their age average.

It appears that females, blacks, those students who indicated their parents had no high school education, and those students living in the middle city were more inclined to think that Mr. Smith liked his job. Maybe "liked" is defined in the context of "has" a job which appears a reasonable explanation since the economic climate for the past several years has not been good.

The same sub-group associations persisted among the data that Smith liked his repetitive job because he kept working at it. Adult subjects from families

TABLE 6.13

REASONS WORKER MIGHT LIKE REPETITIVE JOB
EXERCISE 501 011

Response	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIM
Evidence He Likes It	17	21	27			17	17	24		26													14
	A	16	21				13	20		28	15		24	22		7							6
Likes Pay	17	3										1	0.4										
	A	2																					
Likes Routine	17	8								15	7	20				6				12	5		4
	A	7										0										4	
Likes People Works With	17	1		0.3							1	0										0.1	
	A	1		0					0			0					0			0		0	
Likes working with Leather	17	3							0.4			0											
	A	2					1	2	0														
Likes Mental Aspects	17	1	2						0	0	1				0.2	2				0.3			
	A	4			6				1	0.3	5	0	2			6		2					
Satisfaction if Doing Job Well	17	1										0			1	2	0.1						
	A	3							0		3	0									0.2		1
Likes It Because of Low Mentality	17	2							0.2		2	0	0.4	0.1		3	1		1				
	A	3	1		2					1	3	0	1	1		7	0.3						8
Only Job He Could Get	17	3					2	4													1		
	A	4					3	5															

with post secondary education were below. Males fell short of age average and females above at both ages. Both black seventeens and adults scored above age average in stating that there was evidence Mr. Smith liked his job. Adult whites were below age average in this feeling. Subjects in the southeast region scored above age average while those in the northeast scored below age average. In regard to size and type of community, students in the high metropolitan area scored from 7 to 11 points below age average. It appears then that females and persons who are from depressed socioeconomic levels tend to see a liking for repetitive work more reasonable than males or persons from higher socioeconomic backgrounds do.

13. Summary

Subjects do single out age and race as potential job barriers but the designation of these factors as barriers dwindles among those who are actually at work. Seventeens appear particularly sensitive to the possibility of age barriers to work. Hearteningly, racial barriers to work are singled out for remark in smaller proportion among blacks and others than whites. Sex barriers are mentioned in increasing proportions as subjects age. Higher proportions of adults report these barriers in the west but younger subjects from the west perceive sex discrimination in less than age average percents.

About one half the seventeens and adults in the country consider it possible that a worker can like a repetitive job. In general sex, race, and socioeconomic differences existed in this belief. Higher proportions of females than males held the belief. Higher proportions of blacks than whites held the belief. Those from less favored socioeconomic circumstances held the belief in higher proportions than their age averages.

.30 Seek Personal Fulfillment Through Own Achievements

(2 Exercises:
503 011: 9, 13, 17
503 012: 9, 13)

.31 Who Should Finally Decide on Your Work for a Living? (503 011: 9, 13, 17)

Students were asked "Suppose you had to work for a living. Who should make the final decision about the kind of job you would take?" The responses were: (1) me/myself; (2) me consulting others; (3) me and my parents/me or my parents; (4) parents; (5) persons other than my parents. As indicated in Table 6.31 the most popular response was "me/myself," a response jumping from an incidence of 8 in 20 among nines to about 15 and 17 in 20 for thirteens and adults, respectively. As might be expected, parents were expected to make the choice by 4 in 20 nines, 1 in 20 thirteens, and less than that among adults. The other responses were made by about 1 or 2 in 20 subjects in most instances.

See Table 6.31, p.255

Subjects who indicated their parents had "none" to "some" high school education were below age average in their assumption of responsibility for job choice while subjects were above age averages when their parents had post-secondary education. There were no male/female differences in response to this question but race differences were noticeable. Blacks scored below all three age averages while whites scored above the age averages. Blacks at age 13 showed the greatest discrepancy in regard to age average. They scored 20 percent below their age average. Low socioeconomic metropolitan regions and extreme rural ones were also associated with incidences below averages

TABLE 6.31

PERSON(S) RESPONSIBLE FOR CHOOSING RESPONDENT'S JOB
EXERCISE 503 011

Responsible Person(s)	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Me/Myself	9	39							24	24	42	34				44	26	27					47
	13	75								56	78	62	64	65		82		68					84
	17	87	81							79	88												
Me Consulting Others	9	1								0.2		0.2	0			2		0			0		
	13	2							1	1	2									1	1		
	17	4		2											3	5	1						
Me/My Parents	9	6								2	7						2			4			11
	13	6					5	8								5							
	17	3	4								2											1	
Parents	9	20															12						
	13	7	11							16	6		15			5							3
	17	1	2													1							0
Persons Other Than Parents	9	8																					
	13	5										9							3	9			5
	17	3	5			1												0.3					

while high socioeconomic status in metropolitan areas was associated with average age incidences.

.32 What Would You Enjoy Doing as a Millionaire? (503 012: 9, 13)

This question asked what the students would enjoy doing if they were a millionaire. Enjoyment was independently expressed for (1) building houses and gardens; (2) giving to charity; (3) learning new things; (4) raising race horses; and (5) traveling.

As indicated in Table 6.32 subjects indicated that if they were a millionaire, the activity they would enjoy most was traveling, with learning new things second, giving to charity third, raising race horses fourth, and building houses and gardens last. It is interesting to note that perhaps the easiest and more self indulging activity was rated first. Surprisingly, learning was second and giving to others third.

See Table 6.32, p.257

Travel. The national average for 9-year-old students in regard to travel was 86 percent and for 13-year-old students 94 percent, an increase of 9 percent. Demographically those subjects who indicated their parents had at least graduated from high school were above age averages while subjects from homes of less than high school graduation were below. For thirteens an interesting sex difference was indicated with males scoring below age average and females above it. Also, 9-year-old subjects living in the urban fringe and middle city socioeconomic circumstance in the metropolitan area were sometimes above age averages; those students in the low socioeconomic circumstance in metropolitan areas were below.

TABLE 6.32

ACTIVITIES WOULD ENJOY IF A MILLIONAIRE
EXERCISE 503 012

Activity	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Othr	Blck	Whit	Unkn	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Travelling	9	86		82									76	78	89	90						89	95
	13	94					92	96									89			96			
Learning New Things	9	81			84							78	71			84					76	86	
	13	87								92	86	81											
Giving to Charity	9	72							65	59	76	68	60			81	55					81	83
	13	87					82	90	80		88	78			89								
Raising Race Horses	9	60								50	62				56	64	42			69			
	13	67								53	69		76		70			76					
Building Houses and Gardens	9	46	53							60	43							57	42				
	13	46		41						52	45		56										

Learning. The activity of learning new things was responded to by 81 percent of the 9-year-old students and 87 percent of the 13-year-old students nationally, a six percent gain. Nines who indicated that their parents had no high school education were below age average and those subjects who indicated parents had education beyond high school were above age average. Race differences indicated that 13-year-old blacks were above age average in wanting to learn new things if they had money while whites were below age average. Subjects who lived in the metropolitan big city scored below and those students living in the urban fringe scored above age average.

Giving to Charity. The activity of giving to charity if one had money increased with age from 9 to 13 (9-year-olds 72 percent and 13-year-olds 87 percent, a 15 percent gain). With regard to stated parent education, students who indicated their parents had "none" to "some" high school scored below the age average while those students who indicated their parents had at least graduated from high school scored above age average. Sex differences were apparent with 13-year-old males scoring below age average while 13-year-old females scored above. Race differences suggest that 9-year-old blacks were below age average in this feeling while both 9 and 13-year-old whites were above age average. Similarly, those 9-year-old students in low socioeconomic metropolitan areas were below age average in this feeling and the urban fringe and high socioeconomic metropolitan areas were above age average.

Raising Racehorses. Incidence of expressed enjoyment in raising racehorses if one were a millionaire gained from 60 to 67 percent from nines to thirteens, a gain of 7 percent. The relationship of this expressed enjoyment related interestingly to reported parental education. For nines, subjects from homes with postsecondary education were above age average and those from homes with high school education below age average. However, among thirteens, subjects from homes with no high school and with high school education were both above age average. It appears that the socially acceptable response appears at nine but personal predilections find expression at thirteen. This activity would be enjoyed in higher than age incidence by both nines and thirteens among the whites but by less than age incidence in both ages among the blacks. Among the nines subjects from low socioeconomic circumstance in metropolitan areas would enjoy raising racehorses in less than age average incidence while subjects from medium sized cities report an incidence above age average. The same is true of extreme rural communities among thirteens. Perhaps, proximity to horses has something to do with whether subjects express potential enjoyment from raising the thoroughbreads of the breed or not.

Building Houses and Gardens. Some interesting differences were found in enjoyment of the activity of building houses and gardens if a millionaire. The national average for 9-year-olds was 46 percent and the same for 13-year-olds; no gain appears in this kind of enjoyment. Those subjects whose parents had no high school education scored above the average and those 9-year-old students in the extreme rural area scored above age average while those students in small places scored below age average. Race differences suggest that both 9 and 13-year-old blacks are above age average and whites below in both instances. Nine-year-old students who were in the southeast were above age average while 13-year-old students from the west were below age average. These are interesting differences because in most of them students in the southeast, blacks, those subjects who indicated their parents had "none" or "some" high school and those subjects living in the low socioeconomic metropolitan area and extreme rural area have consistently scored above the national average. The data on this question are almost the reverse of what they have been on preceding questions.

.33 Summary

Realization of personal responsibility for a decision to take an offered job emerges markedly from nine to thirteen and matures even more by seventeen. At seventeen, the incidence of accepted personal responsibility for job selection is in about 17 in 20 Americans. Reciprocally, reliance upon parents dwindles from an incidence of about 4 in 20 nines to practically none in 20 seventeens. This seems to be a characteristic in which incidence is less among homes of higher educational and socioeconomic circumstances. This is probably why blacks are below their age averages and whites above.

Personal enjoyment under conditions where one can afford to do anything ranks in the order of traveling (17-19 in 20), learning new things (16-17 in 20), giving to charity (14-17 in 20), raising racehorses (12-13 in 20), and building houses and gardens (9 in 20). Traveling and giving to charity are the enjoyments with the larger gains from nine to thirteen. The sub-group associations with these enjoyments are neither marked nor ordinary although there are some which do follow general lines. For instance, higher education and socioeconomic backgrounds are generally associated with higher than age average incidence while lower education and socioeconomic backgrounds are associated with less than age average incidence. Also, because of these background conditions, blacks ordinarily fall short of age averages and whites exceed them. However, with regard to building houses and gardens reverse relationships occur. Building houses and gardens seems to be one activity which appeals to subjects from lower educational and lesser socioeconomic backgrounds and not the reverse.

.40 Value Work in Terms of Societal Goals

(1 Exercise:
504 005: 13, 17, A)

.41 Why We Should Continue to Have Child Labor Laws (504 005: 13, 17, A)

Students were told that in this country we have child labor laws which do not allow children to work at regular jobs. They were asked if such laws should continue to exist, and to give up to three reasons for their answers.

As indicated in Table 6.41, about 9 in 20 thirteens, 15 in 20 seventeens and 18 in 20 adults feel that child labor laws should be continued. It is interesting that this conviction increases with age. There may perhaps be little self protectiveness involved in these opinions which the reasons for continuing child labor laws reported in Table 6.42 will help us understand. In the meantime it is also interesting to note that whites exceed age averages in this opinion while blacks are below age averages. Furthermore, subjects from homes with postsecondary levels of education exceed averages while homes with less than high school education fall short of age averages. In addition, a few metropolitan areas of high socioeconomic status exceed age averages while low socioeconomic parts of those areas and extreme rural areas fall short of age averages. The opinion then may be an effect of both more education in the home and closer proximity to technological and manufacturing types of employment.

See Table 6.41, p.262

Subjects at least once mentioned the various reasons for continuing child labor laws which are indicated in Table 6.42. The two reasons for continuing

See Table 6.42, p.263

TABLE 6.41

CHILD LABOR LAWS SHOULD BE CONTINUED
EXERCISE 504 005

e- ponse	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Oth	Blk	Whit	Unk	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
Yes	13	46		40									31			49	30		51				
	17	74	66			79				53	77	63	64	63		79							
	Adult	88							70	76	90	70	84		91	91	79	81				92	95

TABLE 6.42

REASON FOR CONTINUING CHILD LABOR LAWS MENTIONED AT LEAST ONCE

EXERCISE 504 005

eason	Age Group	Nat.	Region				Sex		Race			Parental Education					Size and Type of Community						
			SE	West	Cent	NE	M	F	Oth	Blk	Wht	Unk	None	Some	Grad	Post	LOMT	ER	SMPL	MCTY	MBC	UF	HIMT
o Protect ell-being	13	19		15						12							11		22		14		
	17	38		30		44			22	24	41	18		30		42							
	Adult	51							32	27	54	32	45			58	36						
orking nterferes ith Educ.	13	18		14		22				10	20	13	11			23	9						26
	17	36	31				32	41		22	38	20	25	22		43							50
	Ad	47									48	28	41		50	51		37	43				58
hildren ot ualified	13	26											16				16	18			32		
	17	35					32	38		26							29	42					
	Ad	26														21							
mployers xploit	13	3															5						
	17	14	9							4	16	3		8		18							10
	Ad	26	20				28	24		14	28	11	17		30	35	18				19	33	39
o Allow ore Adults o be Em-ployed	13	3	2						1	1	4			1		5		1					8
	17	11	4		15				5	4	12	2	6	7		14	6						16
	Ad	14	8		18		16	12	3	8	16	5					7	10					
arents xploit	13	3								2	3	1	1			4							
	17	6					5	8	2	3	7	2		4		8	3						
	Ad	10					8	12	1	6	11		7				4						

child labor laws which were mentioned most frequently at least once were both to protect the well being of children and to leave them free for their educations. Both of these reasons increased in incidence with the age groups going from about 4 in 20 among thirteens to 7 or 8 in 20 among seventeens and to 9 or 10 in 20 among adults. Other reasons which were mentioned less frequently at least once included children not being qualified for work, employers exploit children, keeping children from the job market to allow more adults to be employed, and parents exploit children. The two latter reasons had very small incidences, both being less than 3 in 20 in all three age groups. The fear of employer exploitation of children increases with age to a small degree and the opinion that children are not qualified to work increases in incidence from thirteens to seventeens but falls to the incidence level of the thirteens among adults. Perhaps adults with children begin to think that children should work just like thirteens feel they should work when they want to.

The demographic imprint on these incidences resembles in a general way the demographic imprint on the continuation of child labor laws itself (Table 6.41). Subjects from homes with postsecondary education levels are above age averages, those from homes with less than high school education below age averages. Low socioeconomic levels in metropolitan areas and extreme rural areas are below age averages while high socioeconomic levels in small and large metropolitan areas are above age averages. Similarly, blacks are below age averages in many instances and whites above. Regional differences are not marked but when they occur, subjects from the industrialized northeast and central regions are somewhat above age averages and those from the more agricultural southeast and west somewhat below age averages. Finally, the few sex differences are quite variable. Males are above age averages and females below in their opinions that child labor laws should be continued because employers exploit children and because the laws allow more adults to be employed. On the other hand, females exceed age averages and males fall short of them in their beliefs that child labor laws interfere with childrens' educations, that children are not qualified to work, and that parents exploit children.

In summary then, it appears that belief in the continuation of child labor laws is pretty universal among adults but that these beliefs emerge with a good deal of self interest mixed in with them. There are some altruistic reasons expressed and when these altruistic reasons are expressed their incidence is above age average among subjects from homes with a postsecondary level of education. However, the self interest also tends to show through in that subject from the more industrialized sections of the country tend to favor them in greater incidence than do subjects from the farm areas of the country. Furthermore, when children are of an age in which they want to work, they don't support the laws as much as they probably will when they get to be an age where they wish to limit the labor market more for their own employment as adults.

☆ U. S. GOVERNMENT PRINTING OFFICE : 1977 241-05/2069